## Figures

Some results of DCPAM are compared with  $\rm MGS^1\text{-}TES^2$  and  $\rm MRO^3\text{-}MCS^4$ 

<sup>&</sup>lt;sup>1</sup>Mars Global Surveyor <sup>2</sup>Thermal Emission Spectrometer <sup>3</sup>Mars Reconnaissance Orbiter <sup>4</sup>Mars Climate Sounder

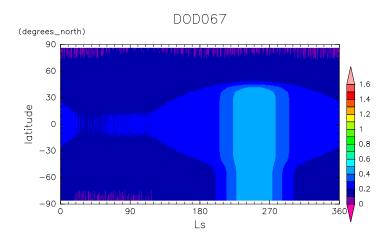


Figure 1: Daily mean dust optical depth prescribed in DCPAM

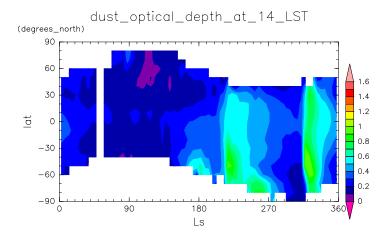


Figure 2: Double of dust optical depth observed by MGS-TES in MY26  $\,$ 

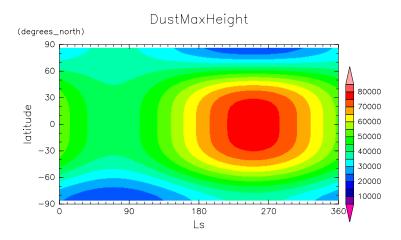
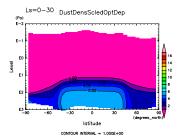


Figure 3: Daily mean maximum height of dust distribution prescribed in DC-PAM  $\,$ 



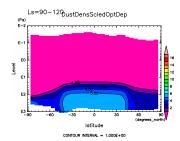
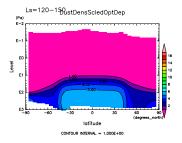


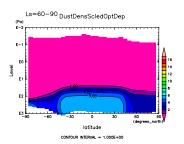
Figure 4: DustDensScledOptDep at Figure 7: DustDensScledOptDep at  $L_s=0^{\circ}-30^{\circ}$  by DCPAM

Ls=30-60 DustDensScledOptDep Level

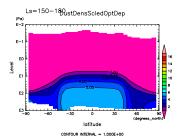
 $L_s=90^{\circ}-120^{\circ}$  by DCPAM



 $\rm L_s{=}30^\circ{-}60^\circ$  by DCPAM

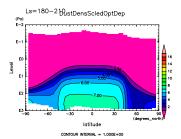


 $Figure \ 5: \ DustDensScledOptDep \ at \ \ Figure \ 8: \ DustDensScledOptDep \ at$  $\rm L_s{=}120^{\circ}{-}150^{\circ}$  by DCPAM



 $L_s=60^{\circ}-90^{\circ}$  by DCPAM

Figure 6: DustDensScledOptDep at Figure 9: DustDensScledOptDep at  $L_s=150^{\circ}-180^{\circ}$  by DCPAM



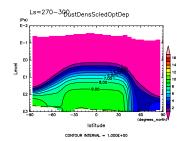
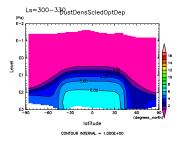


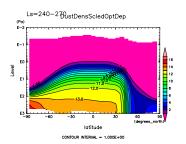
Figure 10: DustDensScledOptDep at Figure 13: DustDensScledOptDep at  $L_s=180^{\circ}-210^{\circ}$  by DCPAM

Ls=210-24RustDensScledOptDep Level

 $L_s=270^{\circ}-300^{\circ}$  by DCPAM



 $L_{\rm s}{=}210^{\circ}{-}240^{\circ}$  by DCPAM



Figure~11:~DustDensScledOptDep~at~~Figure~14:~DustDensScledOptDep~at $\rm L_s{=}300^{\circ}{-}330^{\circ}$  by DCPAM

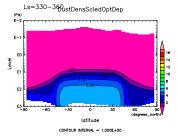
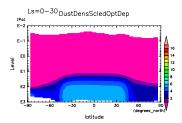


Figure 12: DustDensScledOptDep at Figure 15: DustDensScledOptDep at  $L_s=240^{\circ}-270^{\circ}$  by DCPAM

 $L_s=330^{\circ}-360^{\circ}$  by DCPAM



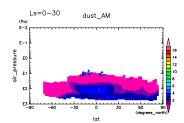
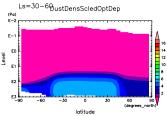
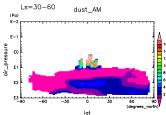


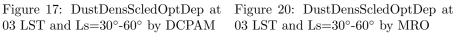
Figure 16: DustDensScledOptDep at Figure 19: DustDensScledOptDep at 03 LST and Ls=0°-30° by DCPAM

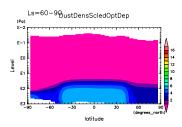
03 LST and  $Ls=0^{\circ}-30^{\circ}$  by MRO

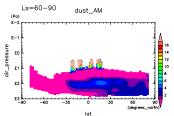




03 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by DCPAM

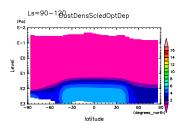


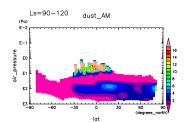




03 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM

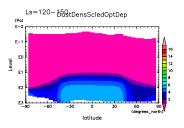
Figure 18: DustDensScledOptDep at Figure 21: DustDensScledOptDep at 03 LST and  $Ls=60^{\circ}-90^{\circ}$  by MRO

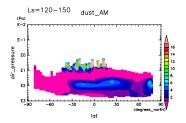




03 LST and Ls= $90^{\circ}$ - $120^{\circ}$  by DCPAM 03 LST and Ls= $90^{\circ}$ - $120^{\circ}$  by MRO

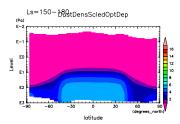
Figure 22: DustDensScledOptDep at Figure 25: DustDensScledOptDep at





03 LST and Ls=120°-150° by DCPAM  $\,$  03 LST and Ls=120°-150° by MRO

 $\label{prop:control} \mbox{Figure 23: DustDensScledOptDep at } \mbox{ Figure 26: DustDensScledOptDep at } \mbox{}$ 



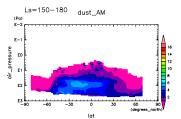
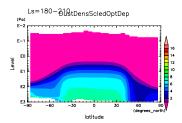


Figure 24: DustDensScledOptDep at Figure 27: DustDensScledOptDep at  $03 \, \mathrm{LST}$  and  $\mathrm{Ls} = 150^{\circ} - 180^{\circ}$  by DCPAM  $03 \, \mathrm{LST}$  and  $\mathrm{Ls} = 150^{\circ} - 180^{\circ}$  by MRO



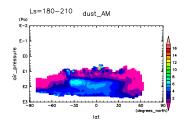
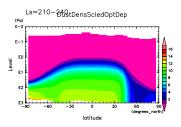
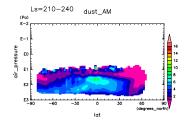


Figure 28: DustDensScledOptDep at Figure 31: DustDensScledOptDep at

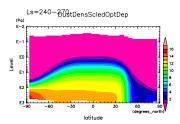
 $03 \, \mathrm{LST}$  and  $\mathrm{Ls} = 180^{\circ} - 210^{\circ}$  by DCPAM  $03 \, \mathrm{LST}$  and  $\mathrm{Ls} = 180^{\circ} - 210^{\circ}$  by MRO





03 LST and Ls=210°-240° by DCPAM  $\,$  03 LST and Ls=210°-240° by MRO

 $\label{prop:prop:scholor} \mbox{Figure 29: DustDensScledOptDep at} \quad \mbox{Figure 32: DustDensScledOptDep at} \\$ 



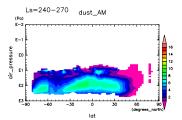
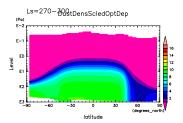
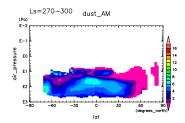


Figure 30: DustDensScledOptDep at Figure 33: DustDensScledOptDep at

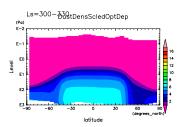
03 LST and Ls=240°-270° by DCPAM  $\,$  03 LST and Ls=240°-270° by MRO

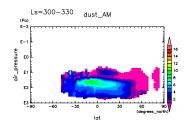




03 LST and Ls=270°-300° by DCPAM 03 LST and Ls=270°-300° by MRO

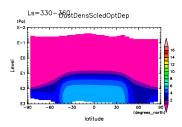
Figure 34: DustDensScledOptDep at Figure 37: DustDensScledOptDep at





 $03~\mathrm{LST}$  and Ls=300°-330° by DCPAM  $~03~\mathrm{LST}$  and Ls=300°-330° by MRO

 $Figure \ 35: \ DustDensScledOptDep \ at \quad Figure \ 38: \ DustDensScledOptDep \ at$ 



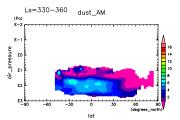
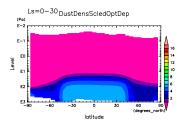


Figure 36: DustDensScledOptDep at Figure 39: DustDensScledOptDep at

03 LST and  $Ls=330^{\circ}-360^{\circ}$  by DCPAM 03 LST and  $Ls=330^{\circ}-360^{\circ}$  by MRO



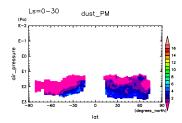
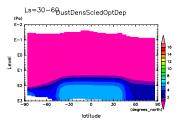
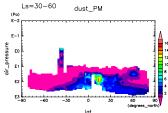


Figure 40: DustDensScledOptDep at Figure 43: DustDensScledOptDep at 15 LST and Ls=0°-30° by DCPAM

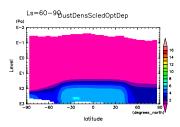
15 LST and Ls=0°-30° by MRO Ls=30-60





15 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by DCPAM

 $Figure \ 41: \ DustDensScledOptDep \ at \quad Figure \ 44: \ DustDensScledOptDep \ at \\$ 15 LST and Ls=30°-60° by MRO



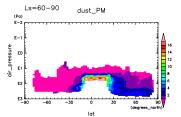
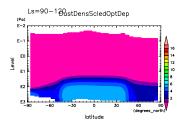
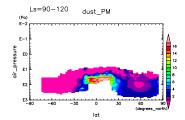


Figure 42: DustDensScledOptDep at Figure 45: DustDensScledOptDep at

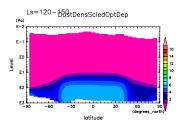
15 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM 15 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by MRO

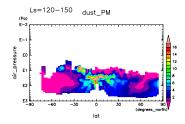




15 LST and Ls=90°-120° by DCPAM 15 LST and Ls=90°-120° by MRO

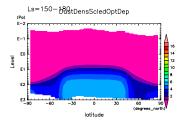
Figure 46: DustDensScledOptDep at Figure 49: DustDensScledOptDep at





 $15\,\mathrm{LST}$  and Ls=120°-150° by DCPAM  $\,$  15 LST and Ls=120°-150° by MRO

 $Figure \ 47: \ DustDensScledOptDep \ at \quad Figure \ 50: \ DustDensScledOptDep \ at$ 



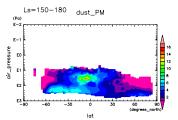
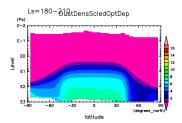
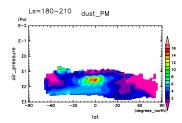


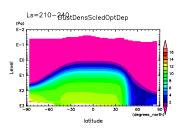
Figure 48: DustDensScledOptDep at Figure 51: DustDensScledOptDep at  $15 \, \mathrm{LST}$  and  $\mathrm{Ls} = 150^{\circ} - 180^{\circ}$  by DCPAM  $15 \, \mathrm{LST}$  and  $\mathrm{Ls} = 150^{\circ} - 180^{\circ}$  by MRO

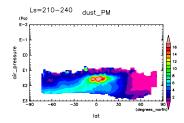




 $15 \, \mathrm{LST}$  and  $\mathrm{Ls} = 180^{\circ} - 210^{\circ}$  by DCPAM  $15 \, \mathrm{LST}$  and  $\mathrm{Ls} = 180^{\circ} - 210^{\circ}$  by MRO

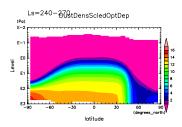
Figure 52: DustDensScledOptDep at Figure 55: DustDensScledOptDep at





 $15\,\mathrm{LST}$  and Ls=210°-240° by DCPAM  $\,$  15 LST and Ls=210°-240° by MRO

 $Figure \ 53: \ DustDensScledOptDep \ at \quad Figure \ 56: \ DustDensScledOptDep \ at$ 



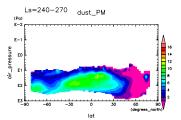
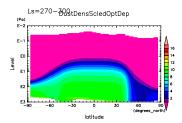
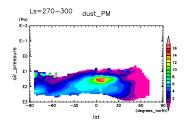


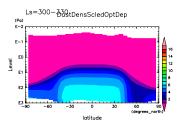
Figure 54: DustDensScledOptDep at Figure 57: DustDensScledOptDep at  $15\,\mathrm{LST}$  and Ls=240°-270° by DCPAM  $\,$  15 LST and Ls=240°-270° by MRO

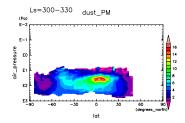




 $15 \, \mathrm{LST}$  and  $\mathrm{Ls}{=}270^{\circ}{-}300^{\circ}$  by DCPAM  $15 \, \mathrm{LST}$  and  $\mathrm{Ls}{=}270^{\circ}{-}300^{\circ}$  by MRO

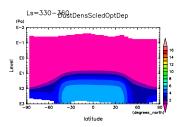
Figure 58: DustDensScledOptDep at Figure 61: DustDensScledOptDep at





 $15\,\mathrm{LST}$  and Ls=300°-330° by DCPAM  $\,$  15 LST and Ls=300°-330° by MRO

 $Figure \ 59: \ DustDensScledOptDep \ at \quad Figure \ 62: \ DustDensScledOptDep \ at$ 



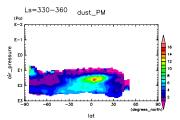
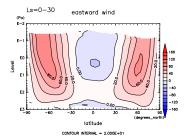


Figure 60: DustDensScledOptDep at Figure 63: DustDensScledOptDep at 15 LST and  $Ls=330^{\circ}-360^{\circ}$  by DCPAM 15 LST and  $Ls=330^{\circ}-360^{\circ}$  by MRO



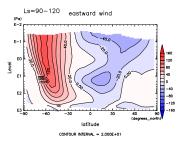
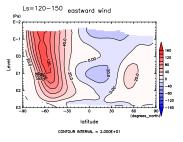


Figure 64: U at  $\rm L_s{=}0^{\circ}{-}30^{\circ}$  by DC-  $\rm$  Figure 67: U at  $\rm L_s{=}90^{\circ}{-}120^{\circ}$  by DC- $\overline{\text{PAM}}$ 

eastward wind latitude

PĂM



 $\stackrel{\circ}{\mathrm{PAM}}$ 

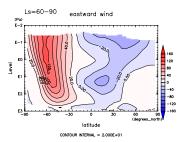
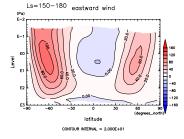
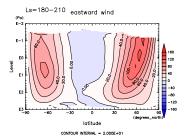


Figure 65: U at L\_s=30°–60° by DC-  $\,$  Figure 68: U at L\_s=120°–150° by DC- $\widetilde{\text{PAM}}$ 



 $\overline{\text{PAM}}$ 

Figure 66: U at L\_s=60°–90° by DC- Figure 69: U at L\_s=150°–180° by DC- $\widetilde{\mathrm{PAM}}$ 



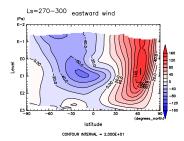
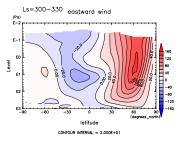


Figure 70: U at L\_s=180°–210° by DC-  $\,$  Figure 73: U at L\_s=270°–300° by DC-PAM  $\,$  PAM

latitude



 $\stackrel{\circ}{\mathrm{PAM}}$ 

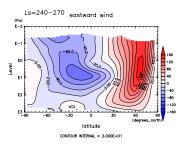


Figure 71: U at L\_s=210°-240° by DC-  $\,$  Figure 74: U at L\_s=300°-330° by DC- $\widetilde{\text{PAM}}$ 

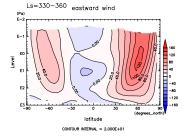


Figure 72: U at L\_s=240°-270° by DC-  $\,$  Figure 75: U at L\_s=330°-360° by DC- $\stackrel{\smile}{\mathrm{PAM}}$ 

 $\stackrel{\smile}{\mathrm{PAM}}$ 

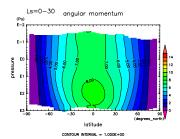


Figure 76: ANGMOM at  $\rm L_s{=}0^\circ{-}30^\circ$  by DCPAM

Ls=30-60 angular momentum

Figure 79: ANGMOM at  $\rm L_s{=}90^\circ{-}120^\circ$  by DCPAM

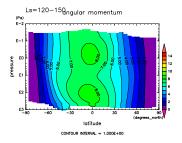


Figure 77: ANGMOM at Ls=30°–60° by DCPAM

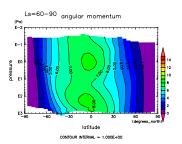


Figure 80: ANGMOM at  $L_s{=}120^\circ{-}150^\circ$  by DCPAM

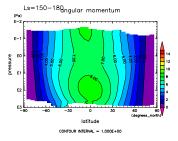
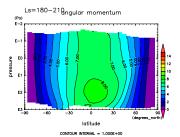


Figure 78: ANGMOM at Ls=60°–90° by DCPAM

Figure 81: ANGMOM at  $L_s=150^{\circ}-180^{\circ}$  by DCPAM



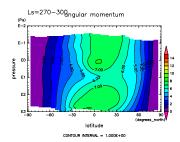
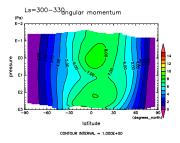


Figure 82: ANGMOM at  $L_s=180^{\circ}-$  Figure 85: ANGMOM at  $L_s=270^{\circ} 210^{\circ}$  by DCPAM

Ls=210-240 angular momentum

 $300^{\circ}$  by DCPAM



 $240^{\circ}$  by DCPAM

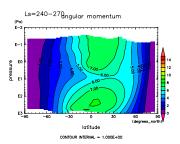


Figure 83: ANGMOM at  $\rm L_s{=}210^\circ{-}$  Figure 86: ANGMOM at  $\rm L_s{=}300^\circ{-}$  $330^{\circ}$  by DCPAM

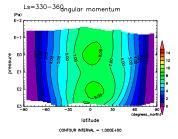
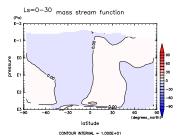


Figure 84: ANGMOM at  $L_s=240^{\circ}-$  Figure 87: ANGMOM at  $L_s=330^{\circ} 270^{\circ}$  by DCPAM

 $360^{\circ}$  by DCPAM



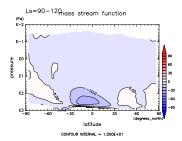
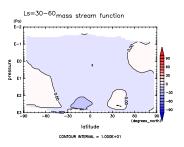
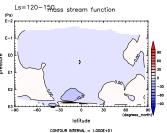


Figure 88: MSF at  $L_s=0^{\circ}-30^{\circ}$  by DC- Figure 91: MSF at  $L_s=90^{\circ}-120^{\circ}$  by  $\overline{\text{PAM}}$ 

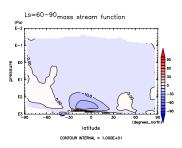
DCPAM





DCPAM

Figure 89: MSF at  $L_s=30^{\circ}-60^{\circ}$  by Figure 92: MSF at  $L_s=120^{\circ}-150^{\circ}$  by  $\widetilde{\mathrm{DCPAM}}$ 



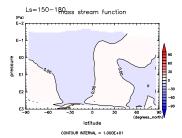
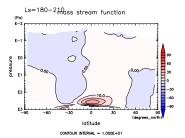


Figure 90: MSF at  $L_s=60^{\circ}-90^{\circ}$  by Figure 93: MSF at  $L_s=150^{\circ}-180^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 

 $\widetilde{\text{DCPAM}}$ 



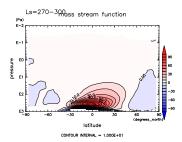
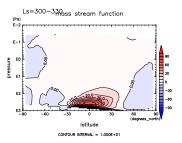


Figure 94: MSF at  $L_s=180^{\circ}-210^{\circ}$  by Figure 97: MSF at  $L_s=270^{\circ}-300^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 

latitude

 $\widetilde{\text{DCPAM}}$ 



 $\operatorname{DCPAM}$ 

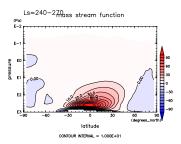


Figure 95: MSF at  $L_s$ =210°-240° by Figure 98: MSF at  $L_s$ =300°-330° by DCPAM

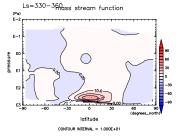
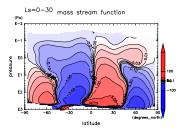
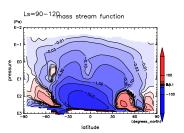


Figure 96: MSF at  $L_s{=}240^\circ{-}270^\circ$  by  $\,$  Figure 99: MSF at  $L_s{=}330^\circ{-}360^\circ$  by  $\widetilde{\text{DCPAM}}$ 

 $\widetilde{\text{DCPAM}}$ 

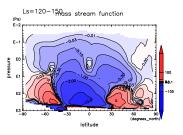




 $\overline{\text{DCPAM}}$ 

latitude

Figure 100: MSF at  $L_s{=}0^\circ{-}30^\circ$  by  $\,$  Figure 103: MSF at  $L_s{=}90^\circ{-}120^\circ$  by  $\widetilde{\text{DCPAM}}$ 



 $\widetilde{\mathrm{DCPAM}}$ 

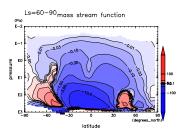


Figure 101: MSF at  $L_s$ =30°-60° by Figure 104: MSF at  $L_s$ =120°-150° by  $\widetilde{\mathrm{DCPAM}}$ 

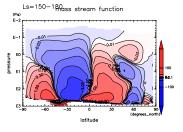
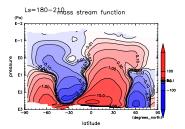
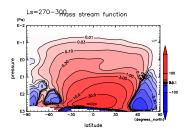


Figure 102: MSF at  $L_s$ =60°-90° by Figure 105: MSF at  $L_s$ =150°-180° by  $\widetilde{\text{DCPAM}}$ 

DČPAM

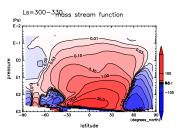




 $\overline{\text{DCPAM}}$ 

latitude

Figure 106: MSF at L\_s=180°–210° by  $\,$  Figure 109: MSF at L\_s=270°–300° by  $\widetilde{\text{DCPAM}}$ 



 $\widetilde{\mathrm{DCPAM}}$ 

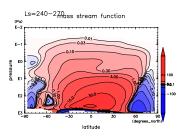
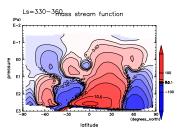
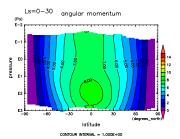


Figure 107: MSF at  $L_s$ =210°-240° by Figure 110: MSF at  $L_s$ =300°-330° by  $\widetilde{\text{DCPAM}}$ 





Ls=0-30 mass stream function latitude

Figure 112: ANGMOM at  $L_{\rm s}{=}0^{\circ}{-}30^{\circ}$ by DCPAM

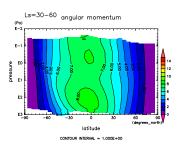
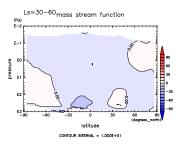


Figure 115: MSF at  $L_s=0^{\circ}-30^{\circ}$  by DČPAM



 $60^{\circ}$  by DCPAM

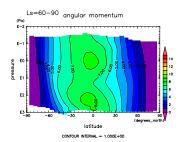
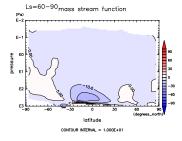
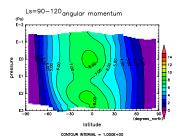


Figure 113: ANGMOM at  $L_s=30^{\circ}-$  Figure 116: MSF at  $L_s=30^{\circ}-60^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 



90° by DCPAM

Figure 114: ANGMOM at  $L_s=60^{\circ}-$  Figure 117: MSF at  $L_s=60^{\circ}-90^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 



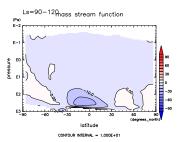
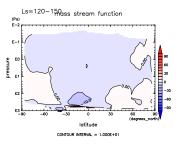


Figure 118: ANGMOM at  $L_s=90^{\circ} 120^{\circ}$  by DCPAM

Ls=120-15Qngular momentum

Figure 121: MSF at  $L_s=90^{\circ}-120^{\circ}$  by DCPAM



 $150^{\circ}$  by DCPAM

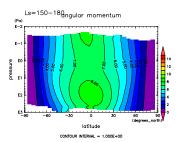


Figure 119: ANGMOM at L\_s=120°– Figure 122: MSF at L\_s=120°–150° by  $\widetilde{\text{DCPAM}}$ 

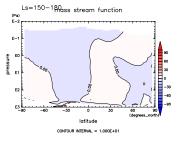
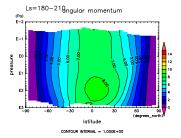


Figure 120: ANGMOM at  $L_s=150^{\circ}-$  Figure 123: MSF at  $L_s=150^{\circ}-180^{\circ}$  by 180° by DCPAM

 $\widetilde{\text{DCPAM}}$ 



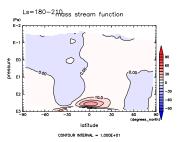
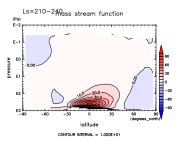


Figure 124: ANGMOM at  $L_s=180^{\circ} 210^{\circ}$  by DCPAM

Ls=210-24Qngular momentum

Figure 127: MSF at  $L_s=180^{\circ}-210^{\circ}$  by DCPAM



 $240^{\circ}$  by DCPAM

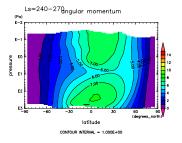


Figure 125: ANGMOM at L\_s=210°– Figure 128: MSF at L\_s=210°–240° by  $\widetilde{\mathrm{DCPAM}}$ 

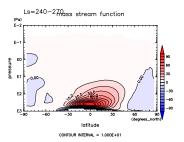
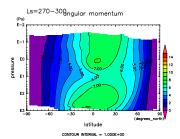


Figure 126: ANGMOM at L<sub>s</sub>=240°– Figure 129: MSF at L<sub>s</sub>=240°–270° by 270° by DCPAM

 $\widetilde{\text{DCPAM}}$ 



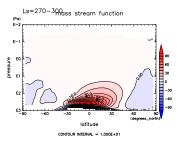
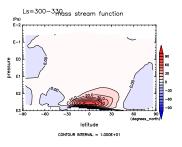


Figure 130: ANGMOM at  $L_s=270^{\circ} 300^{\circ}$  by DCPAM

Ls=300-33Qngular momentum

Figure 133: MSF at  $L_s=270^{\circ}-300^{\circ}$  by DČPAM



 $330^{\circ}$  by DCPAM

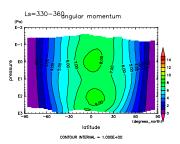


Figure 131: ANGMOM at L\_s=300°– Figure 134: MSF at L\_s=300°–330° by  $\widetilde{\text{DCPAM}}$ 

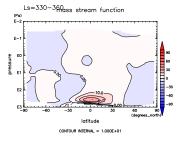
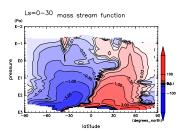
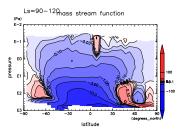


Figure 132: ANGMOM at L<sub>s</sub>=330°– Figure 135: MSF at L<sub>s</sub>=330°–360° by 360° by DCPAM

 $\widetilde{\text{DCPAM}}$ 

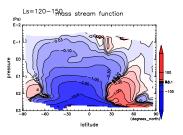




 $\overline{\text{DCPAM}}$ 

latitude

Figure 136: MSF at  $\rm L_s{=}0^\circ{-}30^\circ$  by  $\rm$  Figure 139: MSF at  $\rm L_s{=}90^\circ{-}120^\circ$  by DCPAM



 $\widetilde{\text{DCPAM}}$ 

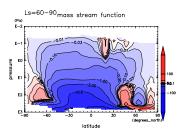


Figure 137: MSF at  $L_s$ =30°-60° by Figure 140: MSF at  $L_s$ =120°-150° by  $\widetilde{\text{DCPAM}}$ 

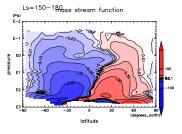
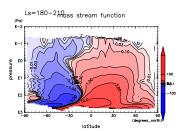
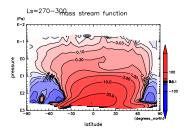


Figure 138: MSF at  $L_s$ =60°-90° by Figure 141: MSF at  $L_s$ =150°-180° by  $\widetilde{\text{DCPAM}}$ 

 $\widetilde{\text{DCPAM}}$ 

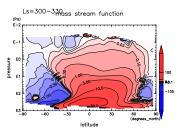




 $\overline{\text{DCPAM}}$ 

Ls=210-240 stream function latitude

Figure 142: MSF at L\_s=180°–210° by  $\,$  Figure 145: MSF at L\_s=270°–300° by  $\widetilde{\text{DCPAM}}$ 



 $\widetilde{\mathrm{DCPAM}}$ 

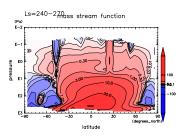


Figure 143: MSF at  $L_s$ =210°-240° by Figure 146: MSF at  $L_s$ =300°-330° by  $\widetilde{\mathrm{DCPAM}}$ 

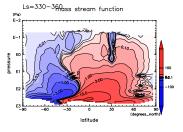
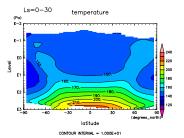
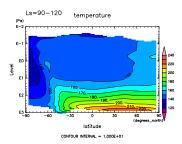


Figure 144: MSF at L\_s=240°–270° by  $\,$  Figure 147: MSF at L\_s=330°–360° by  $\widetilde{\text{DCPAM}}$ 

 $\widetilde{\text{DCPAM}}$ 





 $\overline{\text{DCPAM}}$ 

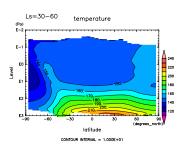
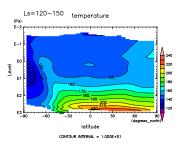


Figure 148: Temp at  $L_s{=}0^\circ{-}30^\circ$  by  $\,$  Figure 151: Temp at  $L_s{=}90^\circ{-}120^\circ$  by DCPAM



DCPAM

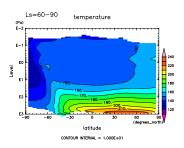
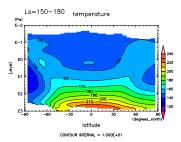
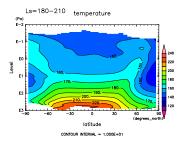


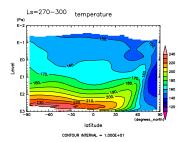
Figure 149: Temp at  $L_s$ =30°-60° by Figure 152: Temp at  $L_s$ =120°-150° by  $\widetilde{\mathrm{DCPAM}}$ 



 $\widetilde{\text{DCPAM}}$ 

Figure 150: Temp at L\_s=60°–90° by  $\,$  Figure 153: Temp at L\_s=150°–180° by  $\widetilde{\text{DCPAM}}$ 

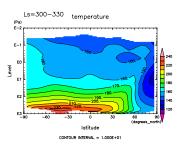




 $\overline{\text{DCPAM}}$ 

Ls=210-240 temperature Level latitude

Figure 154: Temp at  $L_s=180^{\circ}-210^{\circ}$  by Figure 157: Temp at  $L_s=270^{\circ}-300^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 



 $\widetilde{\mathrm{DCPAM}}$ 

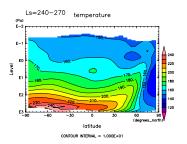
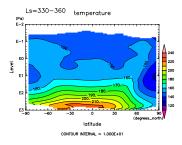
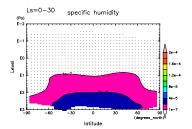


Figure 155: Temp at  $L_s$ =210°-240° by Figure 158: Temp at  $L_s$ =300°-330° by DCPAM



 $\widetilde{\text{DCPAM}}$ 

Figure 156: Temp at L\_s=240°–270° by  $\,$  Figure 159: Temp at L\_s=330°–360° by  $\widetilde{\text{DCPAM}}$ 



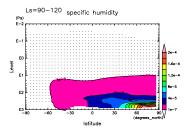


Figure 160: QH2OVap at  $L_s=0^{\circ}-30^{\circ}$ by DCPAM

specific humidity Level

Figure 163: QH2OVap at  $L_s=90^{\circ} 120^{\circ}$  by DCPAM

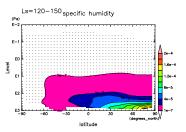


Figure 161: QH2OVap at  $L_s{=}30^{\circ}{-}60^{\circ}$ by DCPAM  $\,$ 

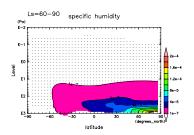


Figure 164: QH2OVap at  $\rm L_s{=}120^\circ{-}$  $150^{\circ}$  by DCPAM

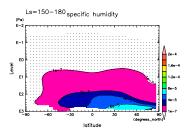
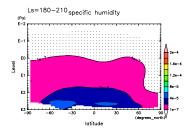


Figure 162: QH2OVap at  $L_s=60^{\circ}-90^{\circ}$  Figure 165: QH2OVap at  $L_s=150^{\circ}$ by DCPAM

 $180^{\circ}$  by DCPAM



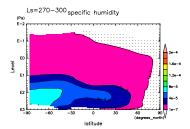
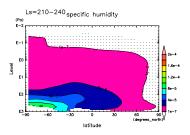
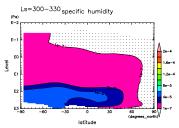


Figure 166: QH2OVap at  $\rm L_s{=}180^{\circ}{-}$  Figure 169: QH2OVap at  $\rm L_s{=}270^{\circ}{-}$  $210^{\circ}$  by DCPAM

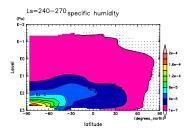
 $300^{\circ}$  by DCPAM





 $240^{\circ}$  by DCPAM

Figure 167: QH2OVap at L\_s=210°– Figure 170: QH2OVap at L\_s=300°–  $330^\circ$  by DCPAM



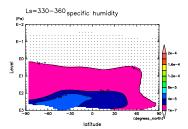
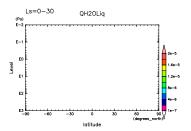


Figure 168: QH2OVap at  $L_s=240^{\circ}-$  Figure 171: QH2OVap at  $L_s=330^{\circ} 270^{\circ}$  by DCPAM

 $360^{\circ}$  by DCPAM



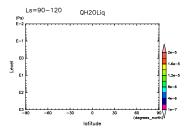


Figure 172: QH2OLiq at  $L_s{=}0^{\circ}{-}30^{\circ}$ by DCPAM

QH20Liq Level latitude

Figure 175: QH2OLiq at  $L_{\rm s}{=}90^{\circ}{-}120^{\circ}$ by DCPAM

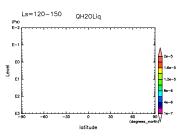


Figure 173: QH2OLiq at L\_s=30°–60° by DCPAM  $\,$ 

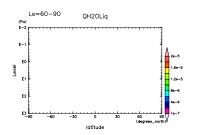
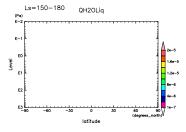
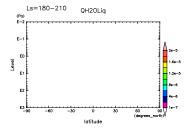
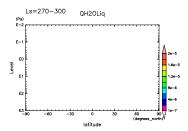


Figure 176: QH2OLiq at  $L_s{=}120^{\circ}{-}$  $150^{\circ}$  by DCPAM

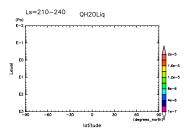


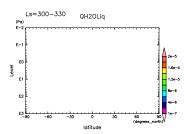




 $210^{\circ}$  by DCPAM

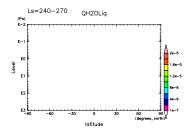
Figure 178: QH2OLiq at  $L_s=180^{\circ}-$  Figure 181: QH2OLiq at  $L_s=270^{\circ} 300^{\circ}$  by DCPAM

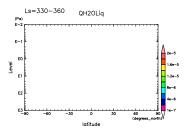




 $240^{\circ}$  by DCPAM

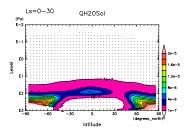
Figure 179: QH2OLiq at L\_s=210°– Figure 182: QH2OLiq at L\_s=300°–  $330^\circ$  by DCPAM





 $270^{\circ}$  by DCPAM

Figure 180: QH2OLiq at  $\rm L_s{=}240^\circ{-}$  Figure 183: QH2OLiq at  $\rm L_s{=}330^\circ{-}$  $360^{\circ}$  by DCPAM



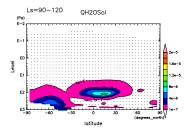


Figure 184: QH2OSol at  $L_s=0^{\circ}-30^{\circ}$ by DCPAM

QH2OSol Level

Figure 187: QH2OSol at  $L_{\rm s}{=}90^{\circ}{-}120^{\circ}$ by DCPAM

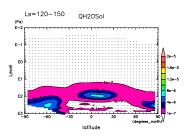


Figure 185: QH2OSol at L\_s=30°–60° by DCPAM  $\,$ 

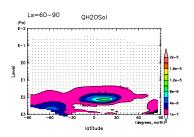


Figure 188: QH2OSol at  $L_s=120^{\circ} 150^{\circ}$  by DCPAM

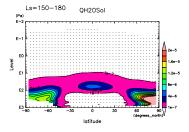
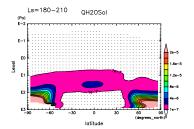


Figure 186: QH2OSol at  $L_s$ =60°-90° Figure 189: QH2OSol at  $L_s$ =150°by DCPAM

180° by DCPAM



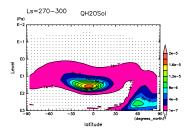
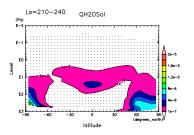
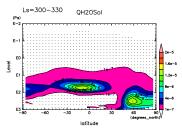


Figure 190: QH2OSol at  $L_s=180^{\circ}-$  Figure 193: QH2OSol at  $L_s=270^{\circ} 210^{\circ}$  by DCPAM

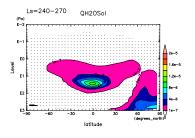
 $300^{\circ}$  by DCPAM





 $240^{\circ}$  by DCPAM

Figure 191: QH2OSol at L\_s=210°– Figure 194: QH2OSol at L\_s=300°–  $330^{\circ}$  by DCPAM



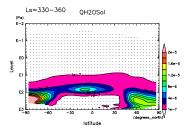
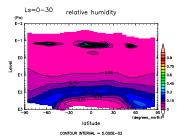


Figure 192: QH2OSol at  $L_s=240^{\circ}-$  Figure 195: QH2OSol at  $L_s=330^{\circ} 270^{\circ}$  by DCPAM

 $360^{\circ}$  by DCPAM



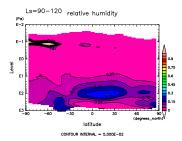
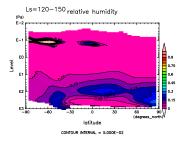


Figure 196: RH at L\_s=0°-30° by DC-  $\,$  Figure 199: RH at L\_s=90°-120° by PAM

Ls=30-60 relative humidity Level latitude

DČPAM



 $\operatorname{DCPAM}$ 

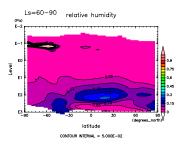


Figure 197: RH at  $L_s=30^{\circ}-60^{\circ}$  by Figure 200: RH at  $L_s=120^{\circ}-150^{\circ}$  by  $\widetilde{\mathrm{DCPAM}}$ 

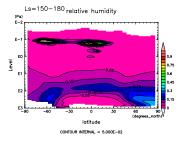
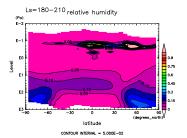


Figure 198: RH at  $\rm L_s{=}60^\circ{-}90^\circ$  by Figure 201: RH at  $\rm L_s{=}150^\circ{-}180^\circ$  by  $\widetilde{\text{DCPAM}}$  $\widetilde{\text{DCPAM}}$ 



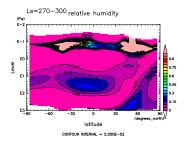
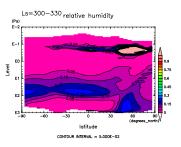


Figure 202: RH at  $L_s=180^{\circ}-210^{\circ}$  by Figure 205: RH at  $L_s=270^{\circ}-300^{\circ}$  by  $\overline{\text{DCPAM}}$ 

Ls=210-240 relative humidity Level latitude

 $\widetilde{\text{DCPAM}}$ 



 $\operatorname{DCPAM}$ 

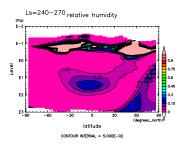


Figure 203: RH at L<sub>s</sub>=210°-240° by Figure 206: RH at L<sub>s</sub>=300°-330° by  $\widetilde{\mathrm{DCPAM}}$ 

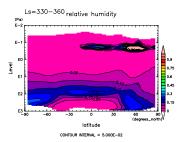
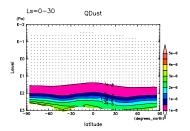
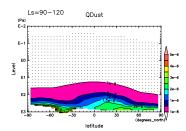


Figure 204: RH at  $\rm L_s{=}240^{\circ}{-}270^{\circ}$  by  $\rm$  Figure 207: RH at  $\rm L_s{=}330^{\circ}{-}360^{\circ}$  by  $\widetilde{\text{DCPAM}}$ 

 $\widetilde{\text{DCPAM}}$ 





DCPAM

E-1 Level latitude

Figure 208: QDust at L\_s=0°-30° by  $\,$  Figure 211: QDust at L\_s=90°-120° by DCPAM

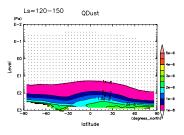


Figure 209: QDust at  $L_s=30^{\circ}-60^{\circ}$  by DCPAM

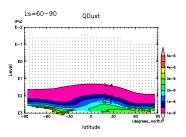


Figure 212: QDust at  $L_s{=}120^{\circ}{-}150^{\circ}$ by DCPAM

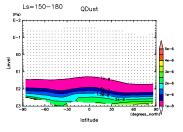


Figure 210: QDust at  $\rm L_s{=}60^\circ{-}90^\circ$  by  $\rm$  Figure 213: QDust at  $\rm L_s{=}150^\circ{-}180^\circ$ by DCPAM DCPAM

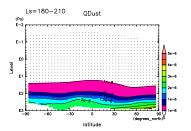


Figure 214: QDust at Ls=180°–210° by DCPAM

Figure 217: QDust at  $\rm L_s{=}270^{\circ}{-}300^{\circ}$  by DCPAM

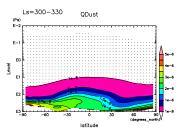


Figure 215: QDust at Ls=210°–240° by DCPAM

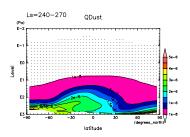


Figure 218: QDust at Ls=300°–330° by DCPAM

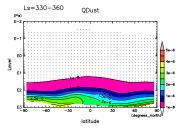
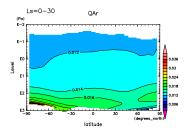
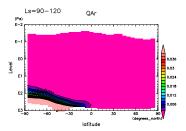


Figure 216: QDust at Ls=240°–270° by DCPAM

Figure 219: QDust at Ls=330°–360° by DCPAM

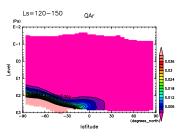




PAM

QAr Level

Figure 220: QAr at L\_s=0°-30° by DC-  $\,$  Figure 223: QAr at L\_s=90°-120° by  $\widetilde{\text{DCPAM}}$ 



 $\operatorname{DCPAM}$ 

latitude

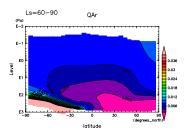


Figure 221: QAr at  $\rm L_s{=}30^\circ{-}60^\circ$  by  $\rm$  Figure 224: QAr at  $\rm L_s{=}120^\circ{-}150^\circ$  by DCPAM

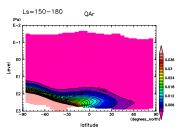
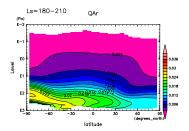
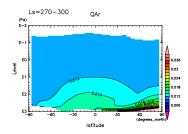


Figure 222: QAr at  $\rm L_s{=}60^\circ{-}90^\circ$  by  $\rm$  Figure 225: QAr at  $\rm L_s{=}150^\circ{-}180^\circ$  by DCPAM

 $\overline{\text{DCPAM}}$ 

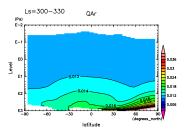




 $\overline{\text{DCPAM}}$ 

QAr Level

Figure 226: QAr at L\_s=180°-210° by  $\,$  Figure 229: QAr at L\_s=270°-300° by  $\widetilde{\text{DCPAM}}$ 



 $\operatorname{DCPAM}$ 

latitude

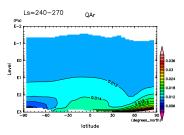


Figure 227: QAr at L\_s=210°-240° by  $\,$  Figure 230: QAr at L\_s=300°-330° by DCPAM

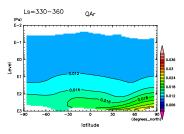
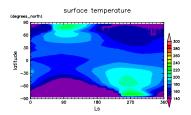


Figure 228: QAr at L\_s=240°-270° by  $\,$  Figure 231: QAr at L\_s=330°-360° by DCPAM

 $\widetilde{\text{DCPAM}}$ 



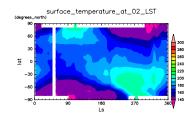


Figure 232:  $\rm T_s$  at 02 LST by DCPAM

surface temperature

Figure 234:  $T_s$  at 02 LST by MGS

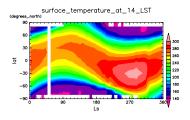
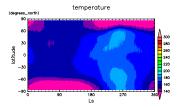


Figure 233:  $\rm T_s$  at 14 LST by DCPAM

Figure 235:  $\mathrm{T_{s}}$  at 14 LST by MGS



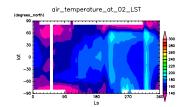


Figure 236: T at 18 Pa and at 02 LST by DCPAM

(degrees\_north)

temperature

Figure 240: T at 18 Pa and at 02 LST by MGS

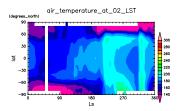


Figure 237: T at 50 Pa and at 02 LST by DCPAM

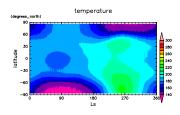


Figure 241: T at 50 Pa and at 02 LST by MGS

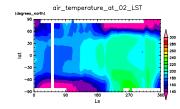


Figure 238: T at 136 Pa and at 02 LST by DCPAM

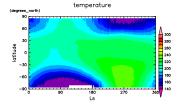


Figure 242: T at 136 Pa and at 02 LST by MGS

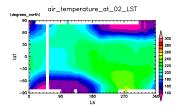
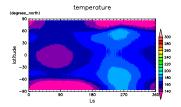


Figure 239: T at 370 Pa and at 02 LST by DCPAM  $\,$ 

Figure 243: T at 370 Pa and at 02 LST by MGS



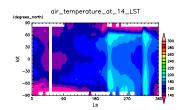


Figure 244: T at 18 Pa and at 14 LST by DCPAM

Figure 248: T at 18 Pa and at 14 LST by MGS  $\,$ 

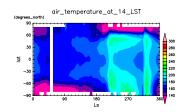


Figure 245: T at 50 Pa and at 14 LST by DCPAM

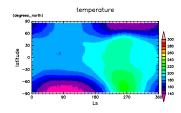


Figure 249: T at 50 Pa and at 14 LST by MGS

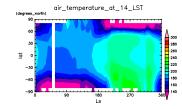


Figure 246: T at 136 Pa and at 14 LST by DCPAM

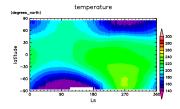


Figure 250: T at 136 Pa and at 14 LST by MGS

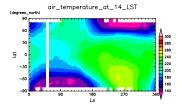
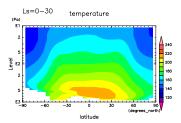


Figure 247: T at 370 Pa and at 14

LST by DCPAM

Figure 251: T at 370 Pa and at 14 LST by MGS

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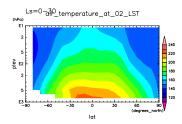


Figure 252: Temp at 02 LST and Figure 255: Temp at 02 LST and  $Ls=0^{\circ}-30^{\circ}$  by DCPAM

Ls=30-60 temperature

 $Ls=0^{\circ}-30^{\circ}$  by MGS

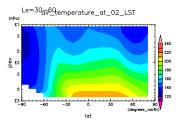
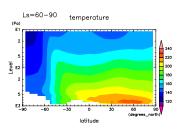


Figure 253: Temp at 02 LST and Figure 256: Temp at 02 LST and Ls=30°-60° by DCPAM



Ls= $30^{\circ}$ - $60^{\circ}$  by MGS

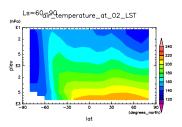
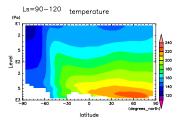


Figure 254: Temp at 02 LST and Figure 257: Temp at 02 LST and  $Ls=60^{\circ}-90^{\circ}$  by DCPAM Ls= $60^{\circ}$ - $90^{\circ}$  by MGS



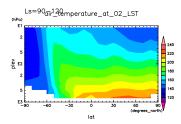
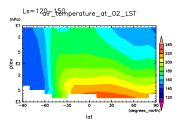


Figure 258: Temp at 02 LST and Figure 261: Temp at 02 LST and  $Ls=90^{\circ}-120^{\circ}$  by DCPAM

Ls=120-150 temperature

 $Ls=90^{\circ}-120^{\circ}$  by MGS



Ls=120°-150° by DCPAM

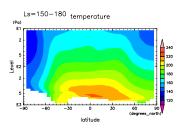


Figure 259: Temp at 02 LST and Figure 262: Temp at 02 LST and Ls=120°-150° by MGS

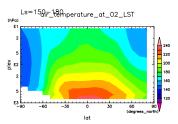
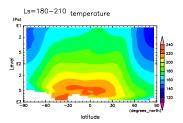


Figure 260: Temp at 02 LST and Figure 263: Temp at 02 LST and  $Ls=150^{\circ}-180^{\circ}$  by DCPAM



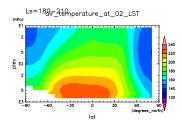
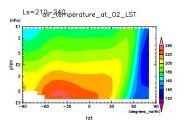


Figure 264: Temp at 02 LST and Figure 267: Temp at 02 LST and  $Ls=180^{\circ}-210^{\circ}$  by DCPAM

Ls=210-240 temperature

Ls= $180^{\circ}$ - $210^{\circ}$  by MGS



Ls=210°-240° by DCPAM

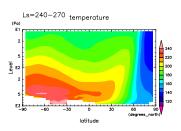


Figure 265: Temp at 02 LST and Figure 268: Temp at 02 LST and Ls=210°-240° by MGS

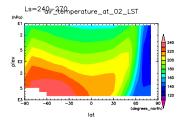
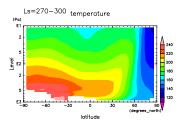
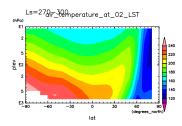


Figure 266: Temp at 02 LST and Figure 269: Temp at 02 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by DCPAM

Ls=240°-270° by MGS

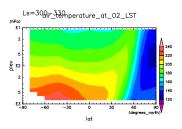




 $Ls=270^{\circ}-300^{\circ}$  by DCPAM

Ls=300-330 temperature

Figure 270: Temp at 02 LST and Figure 273: Temp at 02 LST and Ls= $270^{\circ}$ - $300^{\circ}$  by MGS



Ls=300°-330° by DCPAM

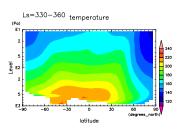


Figure 271: Temp at 02 LST and Figure 274: Temp at 02 LST and Ls=300°-330° by MGS

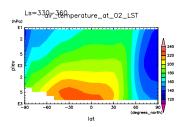
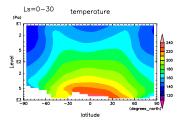
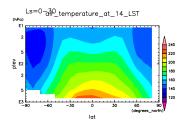


Figure 272: Temp at 02 LST and Figure 275: Temp at 02 LST and  $Ls=330^{\circ}-360^{\circ}$  by DCPAM

Ls= $330^{\circ}$ - $360^{\circ}$  by MGS

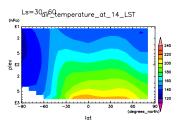




 $Ls=0^{\circ}-30^{\circ}$  by DCPAM

Ls=30-60 temperature

Figure 276: Temp at 14 LST and Figure 279: Temp at 14 LST and  $Ls=0^{\circ}-30^{\circ}$  by MGS



Ls=30°-60° by DCPAM

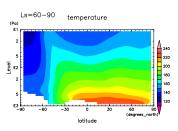


Figure 277: Temp at 14 LST and Figure 280: Temp at 14 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by MGS

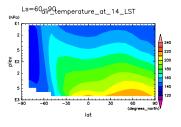
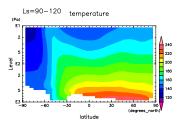
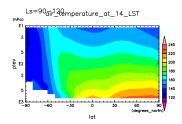


Figure 278: Temp at 14 LST and Figure 281: Temp at 14 LST and  $Ls=60^{\circ}-90^{\circ}$  by DCPAM Ls=60°-90° by MGS

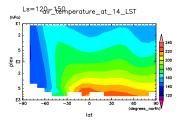




 $Ls=90^{\circ}-120^{\circ}$  by DCPAM

Ls=120-150 temperature

Figure 282: Temp at 14 LST and Figure 285: Temp at 14 LST and  $Ls=90^{\circ}-120^{\circ}$  by MGS



Ls=120°-150° by DCPAM

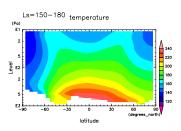


Figure 283: Temp at 14 LST and Figure 286: Temp at 14 LST and Ls=120°-150° by MGS

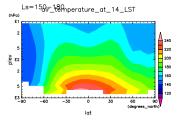
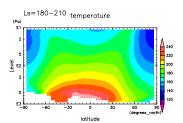
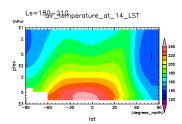


Figure 284: Temp at 14 LST and Figure 287: Temp at 14 LST and  $Ls=150^{\circ}-180^{\circ}$  by DCPAM  $Ls=150^{\circ}-180^{\circ}$  by MGS

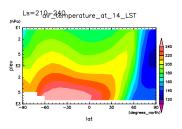




 $Ls=180^{\circ}-210^{\circ}$  by DCPAM

Ls=210-240 temperature

Figure 288: Temp at 14 LST and Figure 291: Temp at 14 LST and Ls=180°-210° by MGS



Ls=210°-240° by DCPAM

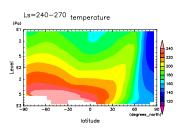


Figure 289: Temp at 14 LST and Figure 292: Temp at 14 LST and Ls=210°-240° by MGS

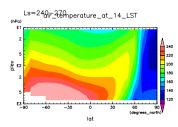
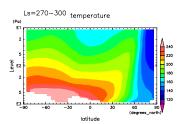
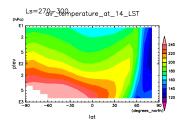


Figure 290: Temp at 14 LST and Figure 293: Temp at 14 LST and  $Ls=240^{\circ}-270^{\circ}$  by DCPAM

Ls=240°-270° by MGS

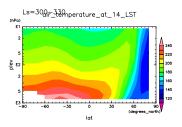




 $Ls=270^{\circ}-300^{\circ}$  by DCPAM

Ls=300-330 temperature latitude

Figure 294: Temp at 14 LST and Figure 297: Temp at 14 LST and Ls= $270^{\circ}$ - $300^{\circ}$  by MGS



Ls=300°-330° by DCPAM

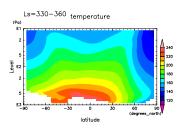


Figure 295: Temp at 14 LST and Figure 298: Temp at 14 LST and Ls=300°-330° by MGS

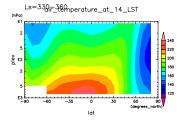
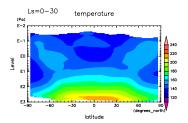
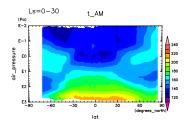


Figure 296: Temp at 14 LST and Figure 299: Temp at 14 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by DCPAM

Ls= $330^{\circ}$ - $360^{\circ}$  by MGS

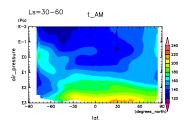




 $Ls=0^{\circ}-30^{\circ}$  by DCPAM

Ls=30-60 temperature

Figure 300: Temp at 03 LST and Figure 303: Temp at 03 LST and  $Ls=0^{\circ}-30^{\circ}$  by MRO



Ls=30°-60° by DCPAM

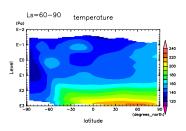


Figure 301: Temp at 03 LST and Figure 304: Temp at 03 LST and Ls=30°-60° by MRO

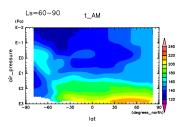
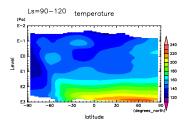
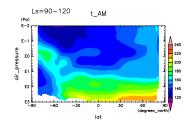


Figure 302: Temp at 03 LST and Figure 305: Temp at 03 LST and  $Ls=60^{\circ}-90^{\circ}$  by DCPAM

 $Ls=60^{\circ}-90^{\circ}$  by MRO

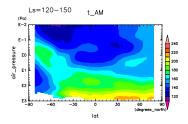




 $Ls=90^{\circ}-120^{\circ}$  by DCPAM

Ls=120-150 temperature

Figure 306: Temp at 03 LST and Figure 309: Temp at 03 LST and  $Ls=90^{\circ}-120^{\circ}$  by MRO



Ls=120°-150° by DCPAM

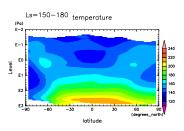


Figure 307: Temp at 03 LST and Figure 310: Temp at 03 LST and Ls=120°-150° by MRO

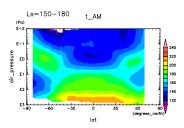
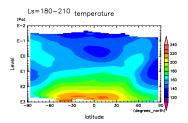


Figure 308: Temp at 03 LST and Figure 311: Temp at 03 LST and Ls= $150^{\circ}$ - $180^{\circ}$  by DCPAM

 $Ls=150^{\circ}-180^{\circ}$  by MRO



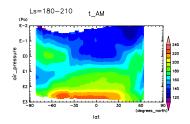
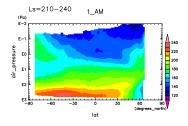


Figure 312: Temp at 03 LST and Figure 315: Temp at 03 LST and Ls= $180^{\circ}$ - $210^{\circ}$  by DCPAM

Ls=210-240 temperature

 $Ls=180^{\circ}-210^{\circ}$  by MRO



Ls=210°-240° by DCPAM

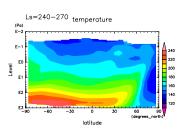


Figure 313: Temp at 03 LST and Figure 316: Temp at 03 LST and Ls=210°-240° by MRO

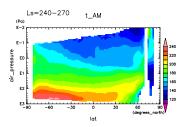
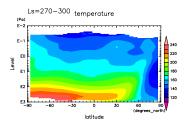


Figure 314: Temp at 03 LST and Figure 317: Temp at 03 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by DCPAM

Ls= $240^{\circ}$ - $270^{\circ}$  by MRO



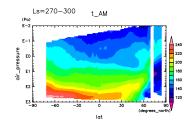
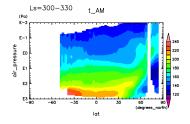


Figure 318: Temp at 03 LST and Figure 321: Temp at 03 LST and  $Ls=270^{\circ}-300^{\circ}$  by DCPAM

Ls=300-330 temperature

 $Ls=270^{\circ}-300^{\circ}$  by MRO



Ls=300°-330° by DCPAM

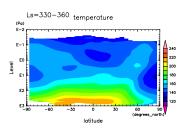


Figure 319: Temp at 03 LST and Figure 322: Temp at 03 LST and Ls=300°-330° by MRO

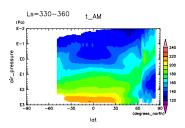
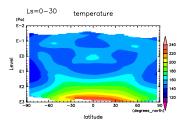


Figure 320: Temp at 03 LST and Figure 323: Temp at 03 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by DCPAM

Ls= $330^{\circ}$ - $360^{\circ}$  by MRO



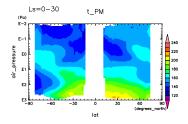
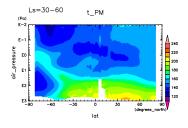


Figure 324: Temp at 15 LST and Figure 327: Temp at 15 LST and  $Ls=0^{\circ}-30^{\circ}$  by DCPAM

Ls=30-60 temperature

 $Ls=0^{\circ}-30^{\circ}$  by MRO



Ls=30°-60° by DCPAM

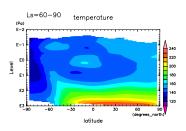


Figure 325: Temp at 15 LST and Figure 328: Temp at 15 LST and Ls=30°-60° by MRO

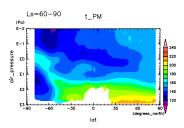
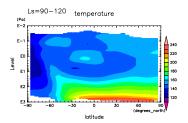
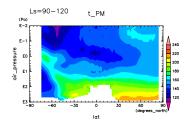


Figure 326: Temp at 15 LST and Figure 329: Temp at 15 LST and  $Ls=60^{\circ}-90^{\circ}$  by DCPAM

Ls=60°-90° by MRO

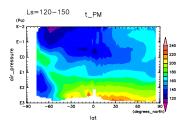




 $Ls=90^{\circ}-120^{\circ}$  by DCPAM

Ls=120-150 temperature

Figure 330: Temp at 15 LST and Figure 333: Temp at 15 LST and  $Ls=90^{\circ}-120^{\circ}$  by MRO



Ls=120°-150° by DCPAM

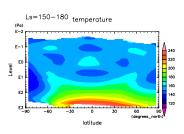


Figure 331: Temp at 15 LST and Figure 334: Temp at 15 LST and Ls=120°-150° by MRO

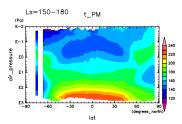
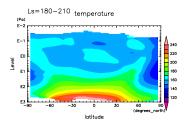
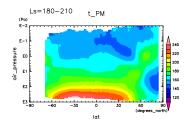


Figure 332: Temp at 15 LST and Figure 335: Temp at 15 LST and Ls= $150^{\circ}$ - $180^{\circ}$  by DCPAM

Ls= $150^{\circ}$ - $180^{\circ}$  by MRO

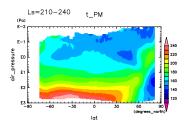




Ls= $180^{\circ}$ - $210^{\circ}$  by DCPAM

Ls=210-240 temperature

Figure 336: Temp at 15 LST and Figure 339: Temp at 15 LST and  $Ls=180^{\circ}-210^{\circ}$  by MRO



Ls=210°-240° by DCPAM

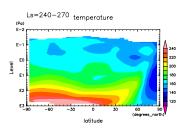


Figure 337: Temp at 15 LST and Figure 340: Temp at 15 LST and Ls=210°-240° by MRO

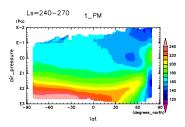
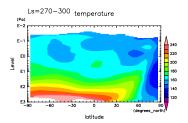


Figure 338: Temp at 15 LST and Figure 341: Temp at 15 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by DCPAM

Ls= $240^{\circ}$ - $270^{\circ}$  by MRO



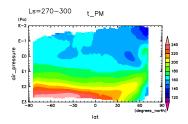
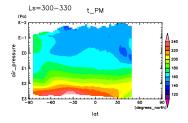


Figure 342: Temp at 15 LST and Figure 345: Temp at 15 LST and  $Ls=270^{\circ}-300^{\circ}$  by DCPAM

Ls=300-330 temperature

 $Ls=270^{\circ}-300^{\circ}$  by MRO



Ls=300°-330° by DCPAM

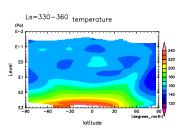


Figure 343: Temp at 15 LST and Figure 346: Temp at 15 LST and Ls=300°-330° by MRO

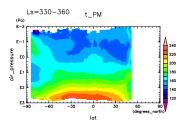


Figure 344: Temp at 15 LST and Figure 347: Temp at 15 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by DCPAM Ls= $330^{\circ}$ - $360^{\circ}$  by MRO

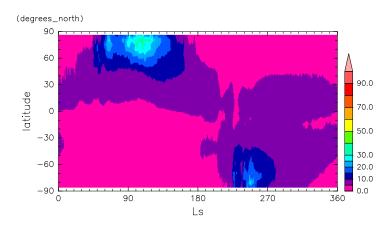


Figure 348: Column integrated water vapor by DCPAM  $\,$ 

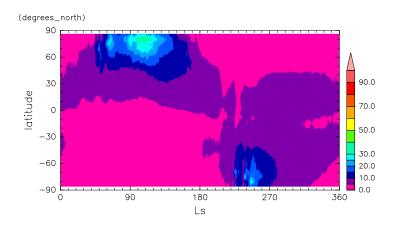


Figure 349: Column integrated water vapor by DCPAM

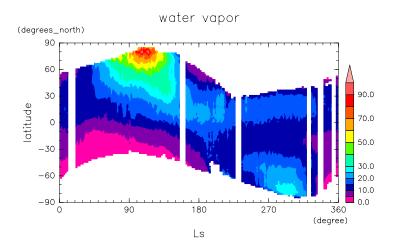


Figure 350: Column integrated water vapor observed by MGS-TES in MY25  $\,$ 

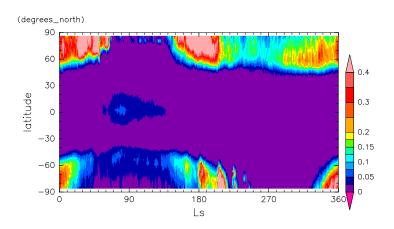


Figure 351: Optical depth of water ice by DCPAM  $\,$ 

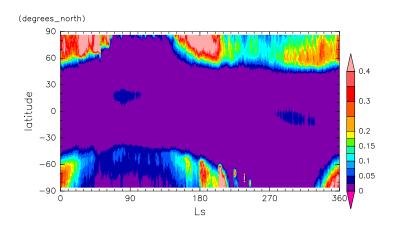


Figure 352: Optical depth of water ice by DCPAM

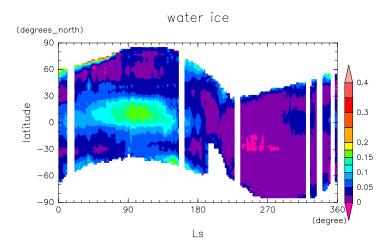


Figure 353: Optical depth of water ice observed by MGS-TES in MY25  $\,$ 

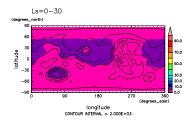


Figure 354: Prec. water at 02 LST and Ls=0°-30° by DCPAM

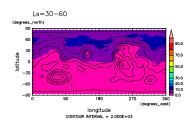


Figure 355: Prec. water at 02 LST and Ls=30°-60° by DCPAM

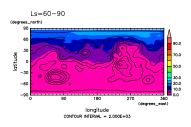


Figure 356: Prec. water at 02 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM

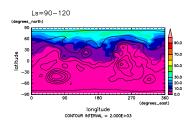


Figure 357: Prec. water at 02 LST and Ls=90°-120° by DCPAM

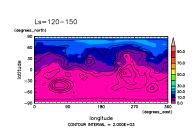


Figure 358: Prec. water at 02 LST and Ls=120°-150° by DCPAM

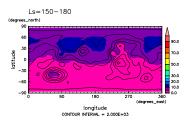


Figure 359: Prec. water at 02 LST and Ls=150°-180° by DCPAM

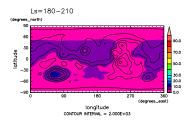


Figure 360: Prec. water at 02 LST and Ls= $180^{\circ}$ - $210^{\circ}$  by DCPAM

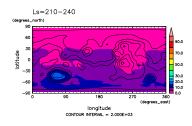


Figure 361: Prec. water at 02 LST and Ls=210°-240° by DCPAM

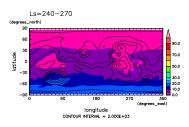


Figure 362: Prec. water at 02 LST and Ls=240°-270° by DCPAM

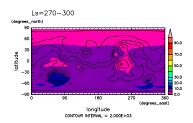


Figure 363: Prec. water at 02 LST and Ls= $270^{\circ}$ -300° by DCPAM

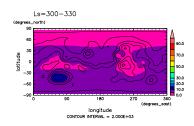


Figure 364: Prec. water at 02 LST and Ls=300°-330° by DCPAM

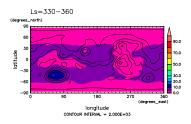


Figure 365: Prec. water at 02 LST and Ls=330°-360° by DCPAM

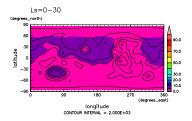


Figure 366: Prec. water at 14 LST and Ls=0°-30° by DCPAM

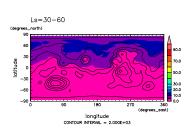


Figure 367: Prec. water at 14 LST and Ls=30°-60° by DCPAM

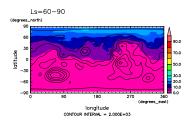


Figure 368: Prec. water at 14 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM

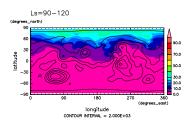


Figure 369: Prec. water at 14 LST and Ls=90°-120° by DCPAM

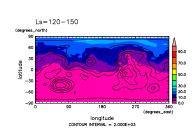


Figure 370: Prec. water at 14 LST and Ls=120°-150° by DCPAM

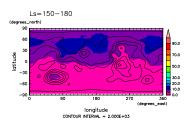


Figure 371: Prec. water at 14 LST and Ls=150°-180° by DCPAM

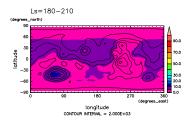


Figure 372: Prec. water at 14 LST and Ls= $180^{\circ}$ - $210^{\circ}$  by DCPAM

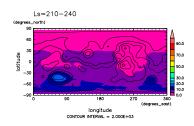


Figure 373: Prec. water at 14 LST and Ls=210°-240° by DCPAM

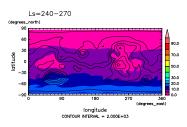


Figure 374: Prec. water at 14 LST and Ls=240°-270° by DCPAM

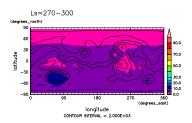


Figure 375: Prec. water at 14 LST and Ls= $270^{\circ}$ - $300^{\circ}$  by DCPAM

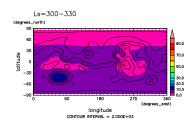


Figure 376: Prec. water at 14 LST and Ls=300°-330° by DCPAM

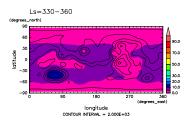
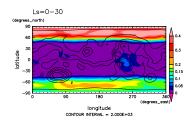
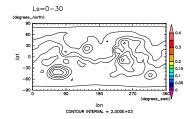


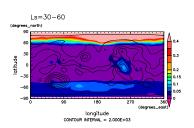
Figure 377: Prec. water at 14 LST and Ls=330°-360° by DCPAM

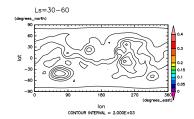




depth at 02 LST and Ls=0°-30° by  $\operatorname{DCPAM}$ 

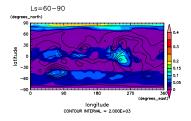
Figure 378:  $H_2O$  ice cloud optical Figure 381:  $H_2O$  ice cloud optical depth at 02 LST and Ls=0°-30° by MGS





depth at 02 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by DCPAM

Figure 379:  $H_2O$  ice cloud optical Figure 382:  $H_2O$  ice cloud optical depth at 02 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by MGS



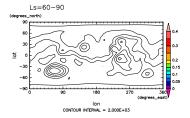
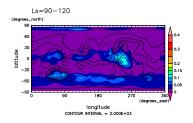
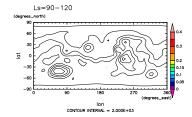


Figure 380: H<sub>2</sub>O ice cloud optical Figure 383: H<sub>2</sub>O ice cloud optical depth at 02 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM

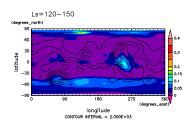
depth at 02 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by MGS

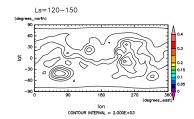




depth at 02 LST and Ls=90°-120° by  $\operatorname{DCPAM}$ 

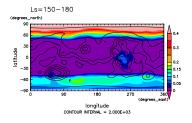
Figure 384:  $H_2O$  ice cloud optical Figure 387:  $H_2O$  ice cloud optical depth at 02 LST and Ls=90°-120° by MGS





depth at 02 LST and Ls= $120^{\circ}$ - $150^{\circ}$  by DCPAM

Figure 385:  $H_2O$  ice cloud optical Figure 388:  $H_2O$  ice cloud optical depth at 02 LST and Ls= $120^{\circ}$ - $150^{\circ}$  by MGS



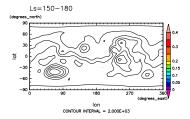
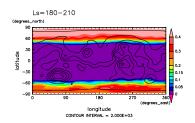
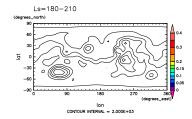


Figure 386: H<sub>2</sub>O ice cloud optical Figure 389: H<sub>2</sub>O ice cloud optical depth at 02 LST and Ls=150°-180° by DCPAM

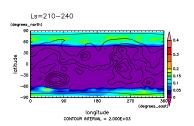
depth at 02 LST and Ls= $150^{\circ}$ - $180^{\circ}$  by MGS

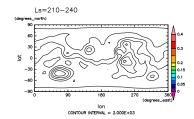




depth at 02 LST and Ls=180°-210° by  $\operatorname{DCPAM}$ 

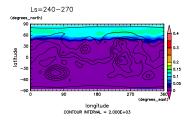
Figure 390:  $H_2O$  ice cloud optical Figure 393:  $H_2O$  ice cloud optical depth at 02 LST and Ls=180°-210° by MGS





depth at 02 LST and Ls= $210^{\circ}$ - $240^{\circ}$  by DCPAM

Figure 391:  $H_2O$  ice cloud optical Figure 394:  $H_2O$  ice cloud optical depth at 02 LST and Ls= $210^{\circ}$ - $240^{\circ}$  by MGS



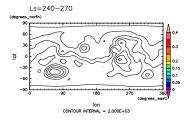
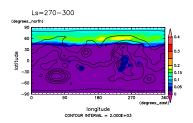
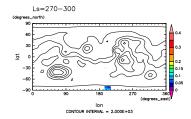


Figure 392: H<sub>2</sub>O ice cloud optical Figure 395: H<sub>2</sub>O ice cloud optical depth at 02 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by DCPAM

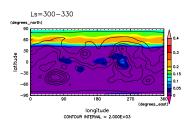
depth at 02 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by MGS

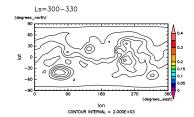




depth at 02 LST and Ls=270°-300° by  $\operatorname{DCPAM}$ 

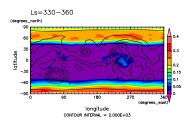
Figure 396:  $H_2O$  ice cloud optical Figure 399:  $H_2O$  ice cloud optical depth at 02 LST and Ls=270°-300° by MGS





depth at 02 LST and Ls= $300^{\circ}$ - $330^{\circ}$  by DCPAM

Figure 397:  $H_2O$  ice cloud optical Figure 400:  $H_2O$  ice cloud optical depth at 02 LST and Ls= $300^{\circ}$ - $330^{\circ}$  by MGS



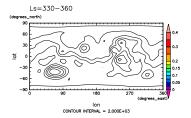
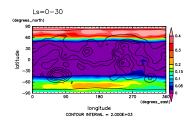
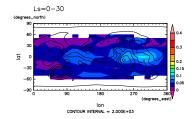


Figure 398: H<sub>2</sub>O ice cloud optical Figure 401: H<sub>2</sub>O ice cloud optical depth at 02 LST and Ls=330°-360° by DCPAM

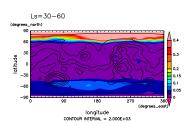
depth at 02 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by MGS

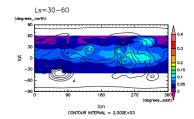




depth at 14 LST and Ls=0°-30° by DCPAM

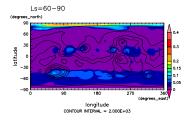
Figure 402:  $H_2O$  ice cloud optical Figure 405:  $H_2O$  ice cloud optical depth at 14 LST and Ls=0°-30° by MGS





depth at 14 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by DCPAM

Figure 403:  $H_2O$  ice cloud optical Figure 406:  $H_2O$  ice cloud optical depth at 14 LST and Ls= $30^{\circ}$ - $60^{\circ}$  by MGS



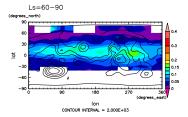
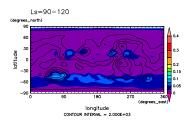
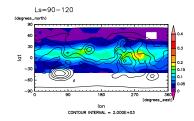


Figure 404: H<sub>2</sub>O ice cloud optical Figure 407: H<sub>2</sub>O ice cloud optical depth at 14 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by DCPAM

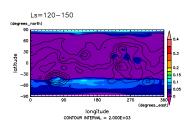
depth at 14 LST and Ls= $60^{\circ}$ - $90^{\circ}$  by MGS

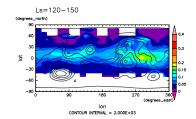




depth at 14 LST and Ls=90°-120° by DCPAM

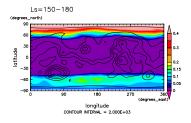
Figure 408:  $H_2O$  ice cloud optical Figure 411:  $H_2O$  ice cloud optical depth at 14 LST and Ls=90°-120° by MGS





depth at 14 LST and Ls= $120^{\circ}$ - $150^{\circ}$  by DCPAM

Figure 409:  $H_2O$  ice cloud optical Figure 412:  $H_2O$  ice cloud optical depth at 14 LST and Ls= $120^{\circ}$ - $150^{\circ}$  by MGS



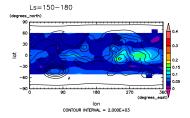
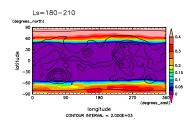
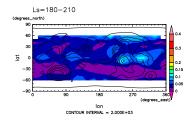


Figure 410: H<sub>2</sub>O ice cloud optical Figure 413: H<sub>2</sub>O ice cloud optical depth at 14 LST and Ls= $150^{\circ}$ - $180^{\circ}$  by DCPAM

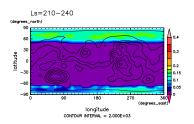
depth at 14 LST and Ls= $150^{\circ}$ - $180^{\circ}$  by MGS

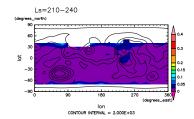




depth at 14 LST and Ls=180°-210° by  $\operatorname{DCPAM}$ 

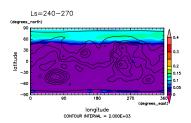
Figure 414:  $H_2O$  ice cloud optical Figure 417:  $H_2O$  ice cloud optical depth at 14 LST and Ls=180°-210° by MGS





depth at 14 LST and Ls= $210^{\circ}$ - $240^{\circ}$  by DCPAM

Figure 415:  $H_2O$  ice cloud optical Figure 418:  $H_2O$  ice cloud optical depth at 14 LST and Ls= $210^{\circ}$ - $240^{\circ}$  by MGS



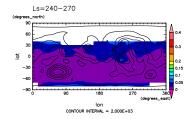
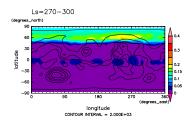


Figure 416: H<sub>2</sub>O ice cloud optical Figure 419: H<sub>2</sub>O ice cloud optical depth at 14 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by DCPAM

depth at 14 LST and Ls= $240^{\circ}$ - $270^{\circ}$  by MGS



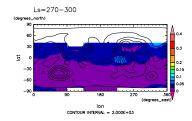
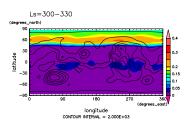
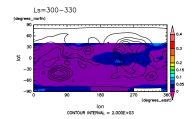


Figure 420:  $H_2O$  ice cloud optical depth at 14 LST and Ls=270°-300° by  $\operatorname{DCPAM}$ 

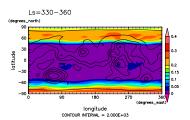
Figure 423: H<sub>2</sub>O ice cloud optical depth at 14 LST and Ls=270°-300° by MGS





depth at 14 LST and Ls= $300^{\circ}$ - $330^{\circ}$  by DCPAM

Figure 421:  $H_2O$  ice cloud optical Figure 424:  $H_2O$  ice cloud optical depth at 14 LST and Ls= $300^{\circ}$ - $330^{\circ}$  by MGS



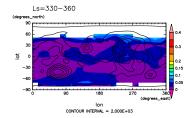


Figure 422: H<sub>2</sub>O ice cloud optical Figure 425: H<sub>2</sub>O ice cloud optical depth at 14 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by DCPAM

depth at 14 LST and Ls= $330^{\circ}$ - $360^{\circ}$  by MGS

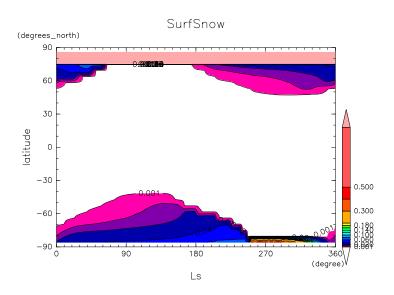


Figure 426: Snow on the ground by DCPAM  $\,$ 

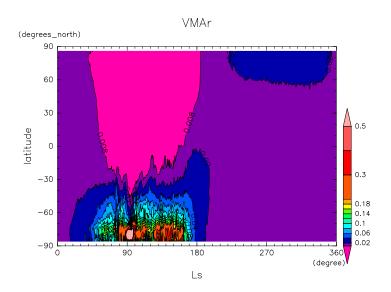


Figure 427: Column mean argon mass mixing ratio by DCPAM  $\,$ 

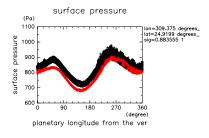


Figure 428: Surface pressure at Viking lander 1 site by DCPAM (black) and observation (diurnal mean, red)

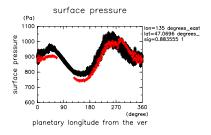


Figure 429: Surface pressure at Viking lander 2 site by DCPAM (black) and observation (diurnal mean, red)

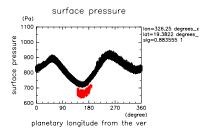


Figure 430: Surface pressure at Mars Pathfinder site by DCPAM (black) and observation (red)

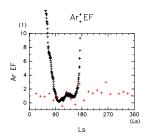


Figure 431: Argon enhancement factor from 75°N to 90°N by DCPAM (black) and observation (red). Observed value is obtained from Figure 1 of Lian et al. (2012).

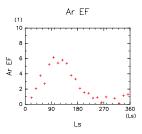


Figure 432: Argon enhancement factor from 75°S to 90°S by DCPAM (black) and observation (red). Observed value is obtained from Figure 1 of Lian et al. (2012).

Value at (lon,lat,Ls)=(134.3,48.0,1575)=0.0002556895778980106 : 0.0145