Figures

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

¹Mars Global Surveyor ²Thermal Emission Spectrometer ³Mars Reconnaissance Orbiter ⁴Mars 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 $\,$





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



Figure 4: DustDensScledOptDep at Figure 7: DustDensScledOptDep at $L_s = 90^{\circ} - 120^{\circ}$ by DCPAM



L_s=30°–60° by DCPAM



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

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



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





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



Figure 10: DustDensScledOptDep at Figure 13: DustDensScledOptDep at $L_s = 270^{\circ} - 300^{\circ}$ by DCPAM



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



 $L_s = 240^{\circ} - 270^{\circ}$ 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 $L_s = 330^{\circ} - 360^{\circ}$ by DCPAM





03 LST and Ls=0°-30° by DCPAM



Figure 16: DustDensScledOptDep at Figure 19: DustDensScledOptDep at 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

 $\label{eq:Figure 17: DustDensScledOptDep at Figure 20: DustDensScledOptDep at$ 03 LST and Ls=30°-60° by MRO



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



03 LST and Ls=90°-120° by DCPAM 03 LST and Ls=90°-120° 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 $\,$



 $\label{eq:Figure 23: DustDensScledOptDep at Figure 26: DustDensScledOptDep at$



03 LST and Ls= 150° - 180° by DCPAM 03 LST and Ls= 150° - 180° by MRO

Figure 24: DustDensScledOptDep at Figure 27: DustDensScledOptDep at



03 LST and Ls=180°-210° by DCPAM 03 LST and Ls=180°-210° by MRO



Figure 28: DustDensScledOptDep at Figure 31: DustDensScledOptDep at



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



 $\label{eq:Figure 29: DustDensScledOptDep at Figure 32: DustDensScledOptDep at$



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

Figure 30: DustDensScledOptDep at Figure 33: DustDensScledOptDep at



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



Figure 34: DustDensScledOptDep at Figure 37: DustDensScledOptDep at



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



Figure 35: DustDensScledOptDep at Figure 38: DustDensScledOptDep at



03 LST and Ls=330°-360° by DCPAM 03 LST and Ls=330°-360° by MRO

Figure 36: DustDensScledOptDep at Figure 39: DustDensScledOptDep at





15 LST and Ls=0°-30° by DCPAM



Figure 40: DustDensScledOptDep at Figure 43: DustDensScledOptDep at 15 LST and Ls= $0^{\circ}-30^{\circ}$ by MRO



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



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

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



Figure 42: DustDensScledOptDep at Figure 45: DustDensScledOptDep at



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



Figure 46: DustDensScledOptDep at Figure 49: DustDensScledOptDep at



 $15\;{\rm LST}$ and Ls=120°-150° by DCPAM $~~15\;{\rm LST}$ and Ls=120°-150° by MRO



15 LST and Ls=150°-180° by DCPAM 15 LST and Ls=150°-180° by MRO

Figure 47: DustDensScledOptDep at Figure 50: DustDensScledOptDep at



Figure 48: DustDensScledOptDep at Figure 51: DustDensScledOptDep at





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



Figure 52: DustDensScledOptDep at Figure 55: DustDensScledOptDep at



 $15\;{\rm LST}$ and Ls=210°-240° by DCPAM $~~15\;{\rm LST}$ and Ls=210°-240° by MRO



 $15~\mathrm{LST}$ and Ls=240°-270° by DCPAM $~15~\mathrm{LST}$ and Ls=240°-270° by MRO

Figure 53: DustDensScledOptDep at Figure 56: DustDensScledOptDep at



Figure 54: DustDensScledOptDep at Figure 57: DustDensScledOptDep at





15 LST and Ls= 270° - 300° by DCPAM 15 LST and Ls= 270° - 300° by MRO



Figure 58: DustDensScledOptDep at Figure 61: DustDensScledOptDep at



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



15 LST and Ls=330°-360° by DCPAM 15 LST and Ls=330°-360° by MRO

Figure 59: DustDensScledOptDep at Figure 62: DustDensScledOptDep at



Figure 60: DustDensScledOptDep at Figure 63: DustDensScledOptDep at





PAM



Figure 64: U at $\rm L_{s}{=}0^{\circ}{-}30^{\circ}$ by DC- $\,$ Figure 67: U at $\rm L_{s}{=}90^{\circ}{-}120^{\circ}$ by DC- $\,$ PĂM



PAM



Figure 65: U at $\rm L_{s}{=}30^{\circ}{-}60^{\circ}$ by DC- $\,$ Figure 68: U at $\rm L_{s}{=}120^{\circ}{-}150^{\circ}$ by DC- $\,$ PAM



Figure 66: U at $L_s=60^{\circ}-90^{\circ}$ by DC- Figure 69: U at $L_s=150^{\circ}-180^{\circ}$ by DC-PAM

PĂM







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



PAM



PAM

Figure 71: U at $\rm L_s{=}210^{\circ}{-}240^{\circ}$ by DC- $\,$ Figure 74: U at $\rm L_s{=}300^{\circ}{-}330^{\circ}$ by DC-PAM



Figure 72: U at $\rm L_s{=}240^{\circ}{-}270^{\circ}$ by DC- $\,$ Figure 75: U at $\rm L_s{=}330^{\circ}{-}360^{\circ}$ by DC-PAM



Ls=90-120 angular momentum reaction of the second second

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



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



Figure 77: ANGMOM at $\rm L_{s}{=}30^{\circ}{-}60^{\circ}$ by DCPAM



Figure 78: ANGMOM at $\rm L_{s}{=}60^{\circ}{-}90^{\circ}$ by DCPAM

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



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





 210° by DCPAM



Figure 82: ANGMOM at $\rm L_{s}{=}180^{\circ}{-}$ Figure 85: ANGMOM at $\rm L_{s}{=}270^{\circ}{-}$ 300° by DCPAM



240° by DCPAM



270° by DCPAM

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



Figure 84: ANGMOM at $L_s=240^{\circ}$ - Figure 87: ANGMOM at $L_s=330^{\circ}$ -360° 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 PAM



DČPAM



DCPAM



DČPAM

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



Figure 90: MSF at $\rm L_{s}{=}60^{\circ}{-}90^{\circ}$ by Figure 93: MSF at $\rm L_{s}{=}150^{\circ}{-}180^{\circ}$ by DČPAM





DCPAM



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



Figure 95: MSF at $L_s=210^{\circ}-240^{\circ}$ by Figure 98: MSF at $L_s=300^{\circ}-330^{\circ}$ by DCPAM



DČPAM



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

DČPAM





DCPAM



Figure 100: MSF at $\rm L_{s}{=}0^{\circ}{-}30^{\circ}$ by Figure 103: MSF at $\rm L_{s}{=}90^{\circ}{-}120^{\circ}$ by DCPAM



DCPAM



DČPAM

Figure 101: MSF at $L_s=30^{\circ}-60^{\circ}$ by Figure 104: MSF at $L_s=120^{\circ}-150^{\circ}$ by DCPAM



Figure 102: MSF at $\rm L_s{=}60^{\circ}{-}90^{\circ}$ by \rm Figure 105: MSF at $\rm L_s{=}150^{\circ}{-}180^{\circ}$ by DČPAM



Ls=270-300 mass stream function (Pa) E-2 E-pressure latitude

Figure 106: MSF at $\rm L_s{=}180^{\circ}{-}210^{\circ}$ by ~ Figure 109: MSF at $\rm L_s{=}270^{\circ}{-}300^{\circ}$ by DCPAM



DCPAM



DČPAM



Figure 107: MSF at $L_s=210^{\circ}-240^{\circ}$ by Figure 110: MSF at $L_s=300^{\circ}-330^{\circ}$ by DCPAM



Figure 108: MSF at $\rm L_s{=}240^{\circ}{-}270^{\circ}$ by \$ Figure 111: MSF at $\rm L_s{=}330^{\circ}{-}360^{\circ}$ by DCPAM \$ DCPAM





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



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



 60° by DCPAM



90° by DCPAM

Figure 113: ANGMOM at $\rm L_{s}{=}30^{\circ}{-}$ Figure 116: MSF at $\rm L_{s}{=}30^{\circ}{-}60^{\circ}$ by DCPAM



Figure 114: ANGMOM at $\rm L_{s}{=}60^{\circ}{-}$ Figure 117: MSF at $\rm L_{s}{=}60^{\circ}{-}90^{\circ}$ by DCPAM





Figure 118: ANGMOM at $\rm L_{s}{=}90^{\circ}{-}$ 120° by DCPAM



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



150° by DCPAM



180° by DCPAM

Figure 119: ANGMOM at L_s=120°- $\,$ Figure 122: MSF at L_s=120°-150° by DCPAM



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



Ls=180-210 mass stream function (Pa) E-2 E--Dressure E1 6.0 E2 E3 latitude CONTOUR INTERVAL = 1.000E+01

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



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



240° by DCPAM



 270° by DCPAM

Figure 125: ANGMOM at L_s=210°- $\,$ Figure 128: MSF at L_s=210°-240° by DČPAM



Figure 126: ANGMOM at L_s=240°- $\,$ Figure 129: MSF at L_s=240°-270° by DČPAM





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



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



 330° by DCPAM



360° by DCPAM

Figure 131: ANGMOM at L_s=300°– $\,$ Figure 134: MSF at L_s=300°–330° by DCPAM



Figure 132: ANGMOM at L_s=330°– Figure 135: MSF at L_s=330°–360° by DČPAM





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



DCPAM



DCPAM



DČPAM

Figure 137: MSF at $L_s=30^{\circ}-60^{\circ}$ by Figure 140: MSF at $L_s=120^{\circ}-150^{\circ}$ by DCPAM



Figure 138: MSF at $\rm L_s{=}60^{\circ}{-}90^{\circ}$ by \rm Figure 141: MSF at $\rm L_s{=}150^{\circ}{-}180^{\circ}$ by DČPAM





DCPAM



Figure 142: MSF at $\rm L_s{=}180^{\circ}{-}210^{\circ}$ by ~ Figure 145: MSF at $\rm L_s{=}270^{\circ}{-}300^{\circ}$ by DCPAM



DCPAM



DČPAM

Figure 143: MSF at $L_s=210^{\circ}-240^{\circ}$ by Figure 146: MSF at $L_s=300^{\circ}-330^{\circ}$ by DCPAM



Figure 144: MSF at $\rm L_s{=}240^{\circ}{-}270^{\circ}$ by ~ Figure 147: MSF at $\rm L_s{=}330^{\circ}{-}360^{\circ}$ by DČPAM





DCPAM



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



DCPAM



DČPAM

Figure 149: Temp at $L_s=30^{\circ}-60^{\circ}$ by Figure 152: Temp at $L_s=120^{\circ}-150^{\circ}$ by DČPAM



Figure 150: Temp at $L_s=60^{\circ}-90^{\circ}$ by Figure 153: Temp at $L_s=150^{\circ}-180^{\circ}$ by DCPAM





DCPAM



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



DČPAM



DČPAM

Figure 155: Temp at $L_s=210^{\circ}-240^{\circ}$ by Figure 158: Temp at $L_s=300^{\circ}-330^{\circ}$ by DČPAM



Figure 156: Temp at $L_s=240^{\circ}-270^{\circ}$ by Figure 159: Temp at $L_s=330^{\circ}-360^{\circ}$ by DČPAM





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



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



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



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

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



180° by DCPAM





 210° by DCPAM



Figure 166: QH2OVap at $L_s=180^{\circ}$ - Figure 169: QH2OVap at $L_s=270^{\circ}$ - 300° by DCPAM



 240° by DCPAM



 270° by DCPAM

Figure 167: QH2OVap at L_s=210°- Figure 170: QH2OVap at L_s=300°- 330° by DCPAM



Figure 168: QH2OVap at $L_s=240^{\circ}$ - Figure 171: QH2OVap at $L_s=330^{\circ}$ -360° by DCPAM





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



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



Figure 173: QH2OLiq at L_s=30°–60° by DCPAM



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





Figure 178: QH2OLiq at $L_s=180^{\circ}$ - Figure 181: QH2OLiq at $L_s=270^{\circ}$ - 210° by DCPAM



 300° by DCPAM



Figure 179: QH2OLiq at L_s=210°– Figure 182: QH2OLiq at L_s=300°– 240° by DCPAM



 330° by DCPAM



 270° by DCPAM

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





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



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



Figure 185: QH2OSol at $\rm L_{s}{=}30^{\circ}{-}60^{\circ}$ by DCPAM



by DCPAM

Figure 188: QH2OSol at $\rm L_{s}{=}120^{\circ}{-}$ 150° by DCPAM



Figure 186: QH2OSol at $L_s=60^{\circ}-90^{\circ}$ Figure 189: QH2OSol at $L_s=150^{\circ}-$ 180° by DCPAM





 210° by DCPAM



Figure 190: QH2OSol at L_s=180°- Figure 193: QH2OSol at L_s=270°-300° by DCPAM



 240° by DCPAM



270° by DCPAM

Figure 191: QH2OSol at L_s=210°– Figure 194: QH2OSol at L_s=300°– 330° by DCPAM



Figure 192: QH2OSol at $L_s=240^{\circ}$ - Figure 195: QH2OSol at $L_s=330^{\circ}$ - 360° by DCPAM



PAM



Figure 196: RH at $\rm L_s{=}0^{\circ}{-}30^{\circ}$ by DC- $\,$ Figure 199: RH at $\rm L_s{=}90^{\circ}{-}120^{\circ}$ by DCPAM



DCPAM



DČPAM

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



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


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



DCPAM



DCPAM



DČPAM

Figure 203: RH at $L_s=210^{\circ}-240^{\circ}$ by Figure 206: RH at $L_s=300^{\circ}-330^{\circ}$ by DČPAM



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 DČPAM





DCPAM



Figure 208: QDust at $L_s=0^{\circ}-30^{\circ}$ by Figure 211: QDust at $L_s=90^{\circ}-120^{\circ}$ by DCPAM



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



DCPAM

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



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





Figure 214: QDust at $\rm L_s{=}180^{\circ}{-}210^{\circ}$ by DCPAM



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



Figure 215: QDust at $\rm L_{s}{=}210^{\circ}{-}240^{\circ}$ by DCPAM



Figure 216: QDust at $\rm L_s{=}240^{\circ}{-}270^{\circ}$ by DCPAM

Figure 218: QDust at $\rm L_{s}{=}300^{\circ}{-}330^{\circ}$ by DCPAM



Figure 219: QDust at $\rm L_s{=}330^{\circ}{-}360^{\circ}$ by DCPAM





PAM



Figure 220: QAr at $\rm L_s{=}0^{\circ}{-}30^{\circ}$ by DC- $\,$ Figure 223: QAr at $\rm L_s{=}90^{\circ}{-}120^{\circ}$ by DČPAM



DCPAM



DCPAM

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



Ls=270-300 QAr (Pa) E-2 E--Level 0.03 E1 E3 latitude

Figure 226: QAr at $\rm L_s{=}180^{\circ}{-}210^{\circ}$ by $\,$ Figure 229: QAr at $\rm L_s{=}270^{\circ}{-}300^{\circ}$ by DCPAM



DCPAM



DCPAM



DCPAM

Figure 227: QAr at $\rm L_s{=}210^{\circ}{-}240^{\circ}$ by $\,$ Figure 230: QAr at $\rm L_s{=}300^{\circ}{-}330^{\circ}$ by DCPAM



Figure 228: QAr at $\rm L_s{=}240^{\circ}{-}270^{\circ}$ by $\,$ Figure 231: QAr at $\rm L_s{=}330^{\circ}{-}360^{\circ}$ by DČPAM



Figure 232: $\mathrm{T_s}$ at 02 LST by DCPAM

Figure 234: $\mathrm{T_s}$ at 02 LST by MGS



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

Figure 235: $\rm T_s$ at 14 LST by MGS



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



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



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

180 Ls

air_temperature_at_02_LST



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 $\,$



43

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 Figu



LST by DCPAM

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



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

180 Ls

air_temperature_at_14_LST



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 $\,$



44

Figure 247: T at 370 Pa and at 14 LST by DCPAM

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



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



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



Ls=30°-60° by DCPAM



Figure 253: Temp at 02 LST and Figure 256: Temp at 02 LST and Ls=30°-60° 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°-90° by MGS



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



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



Ls=120°-150° by DCPAM



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



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



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



Ls=210°-240° by DCPAM



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





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



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



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



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



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°-60° 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



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



 $Ls=150^{\circ}-180^{\circ}$ 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 MGS



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



Figure 288: Temp at 14 LST and Figure 291: Temp at 14 LST and Ls= $180^{\circ}-210^{\circ}$ by MGS



Ls=210°-240° by DCPAM



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



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



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



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



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



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



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



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



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



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



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



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



Ls=210°-240° by DCPAM



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





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



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



Ls=300°-330° by DCPAM



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



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



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



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



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



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



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



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



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

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 MRO



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



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



Ls=300°-330° by DCPAM



 $Ls=330^{\circ}-360^{\circ}$ 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 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 \$62\$



Figure 351: Optical depth of water ice by DCPAM



Figure 352: Optical depth of water ice by DCPAM



Figure 353: Optical depthof water ice observed by MGS-TES in MY25 64



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= $60^\circ\mathchar`-90^\circ$ 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°-210° 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° - 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= $60^\circ\mathchar`-90^\circ$ 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° - 210° 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° - 300° 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


Figure 378: H₂O ice cloud optical Figure 381: H₂O ice cloud optical depth at 02 LST and Ls=0°-30° by DCPAM



depth at 02 LST and Ls=0°-30° by MGS



Figure 379: H₂O ice cloud optical Figure 382: H₂O ice cloud optical depth at 02 LST and Ls= $30^{\circ}-60^{\circ}$ by DCPAM





Figure 380: H₂O ice cloud optical Figure 383: H₂O 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



Figure 384: H₂O ice cloud optical Figure 387: H₂O ice cloud optical depth at 02 LST and Ls=90°-120° by DCPAM



depth at 02 LST and Ls=90°-120° by MGS



depth at 02 LST and Ls= 120° - 150° by DCPAM



Figure 385: H₂O ice cloud optical Figure 388: H₂O ice cloud optical depth at 02 LST and Ls= $120^{\circ}-150^{\circ}$ by MGS



Figure 386: H₂O ice cloud optical Figure 389: H₂O ice cloud optical depth at 02 LST and Ls= 150° - 180° by DCPAM

depth at 02 LST and Ls= 150° - 180° by MGS



depth at 02 LST and Ls=180°-210° by DCPAM



Figure 390: H₂O ice cloud optical Figure 393: H₂O 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: H₂O ice cloud optical Figure 394: H₂O ice cloud optical depth at 02 LST and Ls= $210^{\circ}-240^{\circ}$ by MGS

Ls=240-270

đ



Ion CONTOUR INTERVAL = 2.000E+03

depth at 02 LST and Ls= 240° - 270° by DCPAM



Figure 396: H₂O ice cloud optical Figure 399: H₂O ice cloud optical depth at 02 LST and Ls=270°-300° by DCPAM



depth at 02 LST and Ls=270°-300° by MGS



depth at 02 LST and Ls= 300° - 330° by DCPAM



Figure 397: H₂O ice cloud optical Figure 400: H₂O ice cloud optical depth at 02 LST and Ls= 300° - 330° by MGS

Ls=330-360

đ



Ion CONTOUR INTERVAL = 2.000E+03

depth at 02 LST and Ls= 330° - 360° 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 DCPAM



depth at 14 LST and Ls=0°-30° by MGS



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



Figure 403: H₂O ice cloud optical Figure 406: H₂O ice cloud optical depth at 14 LST and Ls= $30^{\circ}-60^{\circ}$ by MGS



Figure 404: H₂O ice cloud optical Figure 407: H₂O 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



Figure 408: H₂O ice cloud optical Figure 411: H₂O ice cloud optical depth at 14 LST and Ls=90°-120° by DCPAM



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



depth at 14 LST and Ls= 120° - 150° by DCPAM



Figure 409: H₂O ice cloud optical Figure 412: H₂O ice cloud optical depth at 14 LST and Ls= 120° - 150° by MGS



Figure 410: H₂O ice cloud optical Figure 413: H₂O ice cloud optical depth at 14 LST and Ls= 150° - 180° by DCPAM

depth at 14 LST and Ls= 150° - 180° by MGS



Figure 414: H₂O ice cloud optical Figure 417: H₂O ice cloud optical depth at 14 LST and Ls=180°-210° by DCPAM



depth at 14 LST and Ls=180°-210° by MGS



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



Figure 415: H₂O ice cloud optical Figure 418: H₂O ice cloud optical depth at 14 LST and Ls= $210^{\circ}-240^{\circ}$ by MGS



Figure 416: H₂O ice cloud optical Figure 419: H₂O ice cloud optical depth at 14 LST and Ls= 240° - 270° by DCPAM

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



depth at 14 LST and Ls=270°-300° by DCPAM



Figure 420: H₂O ice cloud optical Figure 423: H₂O ice cloud optical depth at 14 LST and Ls=270°-300° by MGS



depth at 14 LST and Ls= 300° - 330° by DCPAM



Figure 421: H₂O ice cloud optical Figure 424: H₂O ice cloud optical depth at 14 LST and Ls= 300° - 330° by MGS



Figure 422: H₂O ice cloud optical Figure 425: H₂O ice cloud optical depth at 14 LST and Ls= 330° - 360° by DCPAM

depth at 14 LST and Ls= 330° - 360° 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)=0.00024224176013376564 : 0.0145