Results of dcpam are compared with $\mathrm{MGS}^{1}-\mathrm{TES}^{2}$ and $\mathrm{MRO}^{3}-\mathrm{MCS}^{4}$ data. MGS-TES and MRO-MCS data used for comparison are those in MY26 ${ }^{5}$ and MY30. Those observational data are downloaded from the PDS ${ }^{6}$.

[^0]dust optical depth at 0.67 micron meter at the surface (degree_north)


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 dcpam


Figure 4: DustDensScledOptDep at 03 LST and Ls $=0^{\circ}-30^{\circ}$ by dcpam


Figure 7: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by MRO


Figure 8: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MRO


Figure 9: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MRO


Figure 10: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 11: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam


Figure 12: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam


Figure 13: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by MRO


Figure 14: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MRO


Figure 15: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MRO


Figure 16: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam


Figure 17: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam


Figure 18: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam


Figure 19: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by MRO


Figure 20: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MRO


Figure 21: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by MRO


Figure 22: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam


Figure 23: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 24: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam


Figure 25: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by MRO


Figure 26: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MRO


Figure 27: DustDensScledOptDep at 03 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MRO


Figure 28: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by dcpam


Figure 31: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by MRO


Figure 29: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by dcpam


Figure 30: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by dcpam

Figure 32: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MRO


Figure 33: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MRO


Figure 34: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 35: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam


Figure 36: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam


Figure 37: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by MRO


Figure 38: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MRO


Figure 39: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MRO


Figure 40: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam


Figure 41: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam


Figure 42: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam


Figure 43: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by MRO


Figure 44: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MRO


Figure 45: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by MRO


Figure 46: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam


Figure 47: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 48: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam


Figure 49: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by MRO


Figure 50: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MRO


Figure 51: DustDensScledOptDep at 15 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MRO


Figure 52: $\mathrm{T}_{\mathrm{s}}$ at 02 LST by dcpam


Figure 53: $\mathrm{T}_{\mathrm{s}}$ at 14 LST by dcpam


Figure 54: $\mathrm{T}_{\mathrm{s}}$ at 02 LST by MGS


Figure 55: $\mathrm{T}_{\mathrm{s}}$ at 14 LST by MGS


Figure 56: T at 18 Pa and at 02 LST by dcpam


Figure 57: T at 50 Pa and at 02 LST by dcpam


Figure 60: T at 18 Pa and at 02 LST by MGS


Figure 61: T at 50 Pa and at 02 LST by MGS


Figure 62: T at 136 Pa and at 02 LST by MGS


Figure 59: T at 370 Pa and at 02 LST by dcpam

Figure 63: T at 370 Pa and at 02 LST by MGS


Figure 64: T at 18 Pa and at 14 LST by dcpam


Figure 65: T at 50 Pa and at 14 LST by dcpam


Figure 69: T at 50 Pa and at 14 LST by MGS


Figure 68: T at 18 Pa and at 14 LST by MGS


Figure 66: T at 136 Pa and at 14 LST by dcpam


Figure 70: T at 136 Pa and at 14 LST by MGS


14

Figure 67: T at 370 Pa and at 14 LST by dcpam

Figure 71: T at 370 Pa and at 14 LST by MGS


Figure 72: Temp at 02 LST and Figure 75: Temp at 02 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by dcpam

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


Figure 73: Temp at 02 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by dcpam


Figure 76: Temp at 02 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MGS


Figure 74: Temp at 02 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by dcpam

Figure 77: Temp at 02 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MGS


Figure 78: Temp at 02 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 81: Temp at 02 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by MGS


Figure 79: Temp at 02 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam


Figure 82: Temp at 02 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MGS


Figure 80: Temp at 02 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam

Figure 83: Temp at 02 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MGS


Figure 84: Temp at 02 LST and Figure 87: Temp at 02 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam

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


Figure 85: Temp at 02 LST and Figure 88: Temp at 02 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam

$\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MGS


Figure 86: Temp at 02 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam

Figure 89: Temp at 02 LST and Ls $=240^{\circ}-270^{\circ}$ by MGS


Figure 90: Temp at 02 LST and Figure 93: Temp at 02 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam

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


Figure 91: Temp at 02 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 94: Temp at 02 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MGS


Figure 92: Temp at 02 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam

Figure 95: Temp at 02 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MGS


Figure 96: Temp at 14 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by dcpam $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by MGS


Figure 97: Temp at 14 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by dcpam


Figure 100: Temp at 14 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MGS


Figure 98: Temp at 14 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by dcpam

Figure 101: Temp at 14 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MGS


Figure 102: Temp at 14 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 105: Temp at 14 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by MGS


Figure 103: Temp at 14 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam
$\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MGS


Figure 104: Temp at 14 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam

Figure 107: Temp at 14 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MGS


Figure 108: Temp at 14 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam


Figure 111: Temp at 14 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by MGS


Figure 109: Temp at 14 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam


Figure 112: Temp at 14 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MGS


Figure 110: Temp at 14 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam

Figure 113: Temp at 14 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by MGS


Figure 114: Temp at 14 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam


Figure 117: Temp at 14 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by MGS


Figure 115: Temp at 14 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 118: Temp at 14 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MGS


Figure 116: Temp at 14 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam

Figure 119: Temp at 14 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MGS


Figure 120: Temp at 03 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by dcpam


Figure 121: Temp at 03 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by dcpam


Figure 122: Temp at 03 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by dcpam


Figure 124: Temp at 03 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MRO

Figure 125: Temp at 03 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MRO


Figure 126: Temp at 03 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 127: Temp at 03 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam


Figure 128: Temp at 03 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam

Figure 130: Temp at 03 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MRO


Figure 131: Temp at 03 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MRO


Figure 132: Temp at 03 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam


Figure 135: Temp at 03 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by MRO


Figure 133: Temp at 03 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam


Figure 136: Temp at 03 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MRO


Figure 134: Temp at 03 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam

Figure 137: Temp at 03 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by MRO


Figure 138: Temp at 03 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam


Figure 141: Temp at 03 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by MRO


Figure 139: Temp at 03 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 142: Temp at 03 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MRO


Figure 140: Temp at 03 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam

Figure 143: Temp at 03 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MRO


Figure 144: Temp at 15 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by dcpam


Figure 147: Temp at 15 LST and $\mathrm{Ls}=0^{\circ}-30^{\circ}$ by MRO


Figure 145: Temp at 15 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by dcpam


Figure 146: Temp at 15 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by dcpam

Figure 148: Temp at 15 LST and $\mathrm{Ls}=30^{\circ}-60^{\circ}$ by MRO


Figure 149: Temp at 15 LST and $\mathrm{Ls}=60^{\circ}-90^{\circ}$ by MRO


Figure 150: Temp at 15 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by dcpam


Figure 153: Temp at 15 LST and $\mathrm{Ls}=90^{\circ}-120^{\circ}$ by MRO


Figure 151: Temp at 15 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by dcpam


Figure 152: Temp at 15 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by dcpam

Figure 154: Temp at 15 LST and $\mathrm{Ls}=120^{\circ}-150^{\circ}$ by MRO


Figure 155: Temp at 15 LST and $\mathrm{Ls}=150^{\circ}-180^{\circ}$ by MRO


Figure 156: Temp at 15 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by dcpam

Figure 159: Temp at 15 LST and $\mathrm{Ls}=180^{\circ}-210^{\circ}$ by MRO

$\mathrm{Ls}=210^{\circ}-240^{\circ}$ by dcpam


Figure 160: Temp at 15 LST and $\mathrm{Ls}=210^{\circ}-240^{\circ}$ by MRO


Figure 158: Temp at 15 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by dcpam

Figure 161: Temp at 15 LST and $\mathrm{Ls}=240^{\circ}-270^{\circ}$ by MRO


Figure 162: Temp at 15 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by dcpam


Figure 165: Temp at 15 LST and $\mathrm{Ls}=270^{\circ}-300^{\circ}$ by MRO


Figure 163: Temp at 15 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by dcpam


Figure 166: Temp at 15 LST and $\mathrm{Ls}=300^{\circ}-330^{\circ}$ by MRO


Figure 164: Temp at 15 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by dcpam

Figure 167: Temp at 15 LST and $\mathrm{Ls}=330^{\circ}-360^{\circ}$ by MRO


[^0]:    ${ }^{1}$ Mars Global Surveyor
    ${ }^{2}$ Thermal Emission Spectrometer
    ${ }^{3}$ Mars Reconnaissance Orbiter
    ${ }^{4}$ Mars Climate Sounder
    ${ }^{5}$ MY stands for Mars Year
    ${ }^{6}$ Planetary Data System

