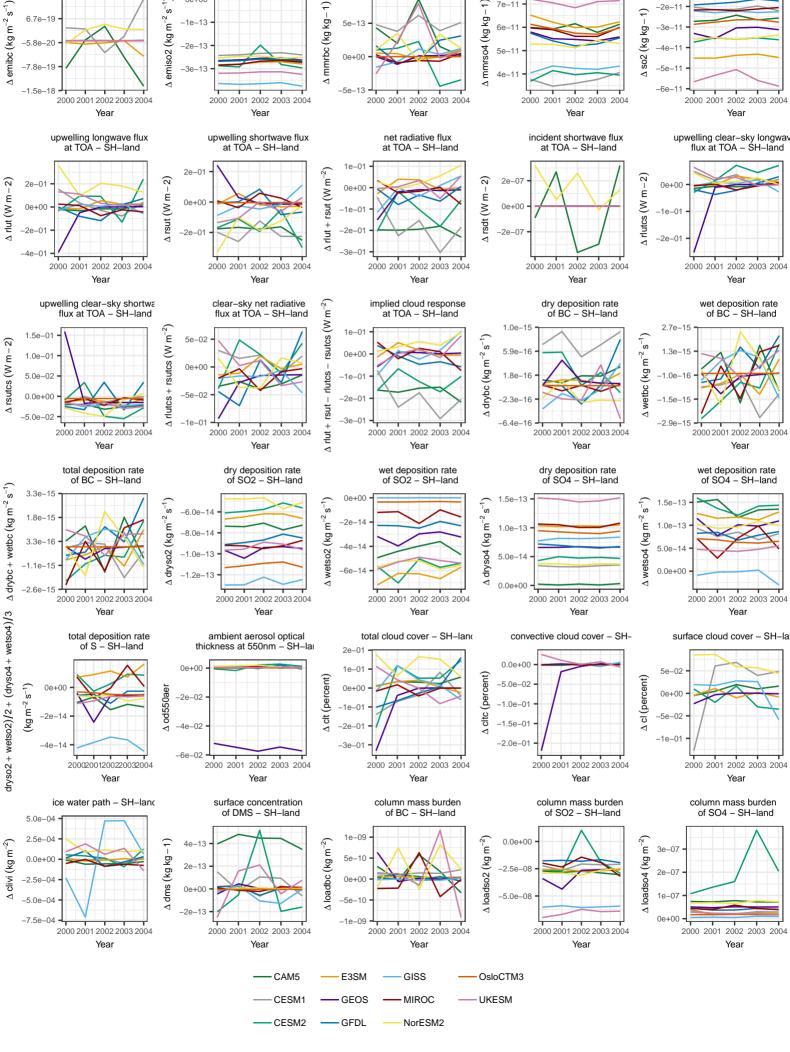
## high-so4: absolute difference surface flux surface flux surface concentration surface concentration surface concentration of BC - SH-land of SO2 - SH-land of BC - SH-land of SO4 - SH-land of SO2 - SH-land 00+00 (kg kg - 1) $\Delta$ emiso2 (kg m $^{-2}$ s $^{-1}$ ∆ mmrbc (kg kg − 1) (kg kg - 1)∆ mmrso4 ∆ so2 ( 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year upwelling shortwave flux at TOA – SH–land upwelling clear-sky longway flux at TOA - SH-land net radiative flux incident shortwave flux at TOA - SH-land at TOA - SH-land 1e-01 $\Delta$ rlut + rsut (W m<sup>-2</sup>) $\Delta$ rlutcs (W m-2) 0e+00 rsut (W mrsdt (W m--2e-01 -2e-01 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year dry deposition rate of BC – SH–land wet deposition rate of BC – SH–land clear-sky net radiative rsutcs (W m<sup>-2</sup>) implied cloud response flux at TOA - SH-land at TOA - SH-land 2.7e-15 1.0e-15 m<sup>-2</sup> 1e-01 5e-02 drybc (kg $m^{-2} s^{-1}$ rlutcs + rsutcs (W 0e+00 wetbc (kg m<sup>-2</sup> rlutcs 1.8e-16 -1e-0'-5e-02 -2e-0° rsnt \_1e\_01 rlut + 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 dry deposition rate of SO2 – SH-land wet deposition rate of SO2 – SH-land dry deposition rate of SO4 – SH-land wet deposition rate of SO4 – SH-land wetso4 (kg m<sup>-2</sup> s<sup>-</sup> wetso2 (kg m<sup>-2</sup> s<sup>-</sup> dryso2 (kg m<sup>-2</sup> s<sup>-</sup> ∆ dryso4 (kg m<sup>-2</sup> 5.0e-14 5.0e-14 0.0e+00 -1 2e-13 0.0e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year ambient aerosol optical total cloud cover - SH-land convective cloud cover - SHsurface cloud cover - SH-la of S - SH-land thickness at 550nm - SH-lai 2e-01 0.0e + 000e+00 1e-01 percent (percent) ∆ cl (percent) -5 0e-02 0e+00 ∆ od550ae 0e+00 cltc ( ∆ clt -5e-02 -1.5e-01 -02 -1e-01 -2.0e-01 -6e-02 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year Year surface concentration column mass burden column mass burden column mass burden of DMS - SH-land of BC - SH-land of SO4 - SH-land 1e-09 0.0e+00 4e-13



1.4e-18