## land: absolute difference surface flux of BC – shp-ind-shift surface flux surface concentration surface concentration surface concentration of SO2 - shp-ind-shift of BC - shp-ind-shift of SO4 - shp-ind-shift of SO2 - shp-ind-shift 2.0e-05 3e-01 1e-01 -2e-02 1.5e-05 26-01 ∆ mmrbc $\Delta so2$ 1e-01 -3e-0200+00 1.0e-05 1e-01 0e+00 5.0e-06 -1e-01 0e+00 -1e-01 0.0e+00 \_1e\_01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 Year Year Year Year Year upwelling longwave flux at TOA – shp–ind–shift upwelling shortwave flux at TOA – shp-ind-shift upwelling clear-sky longwar flux at TOA - shp-ind-shi incident shortwave flux at TOA – shp-ind-shift net radiative flux at TOA - shp-ind-shift 5 0e-02 0.0e+00 2.5e-02 4e-02 rsut -2.5e-03 0.0e+00 rlut + I 0.0e + 000e+00 -2.5e-02 -2 5e-02 -2e-02 -1 0e-02 -5.0e-2000 2001 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 Year upwelling clear-sky shortway clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - shp-ind-shift flux at TOA - shp-ind-shift at TOA - shp-ind-shift of BC - shp-ind-shift of BC - shp-ind-shift rsutcs) 1e-02 1e-02 2e-01 5.0e-02 5e-02 0e+00 rlutcs rsu ∆ rsutcs △ wetbc 2.5e-02 Δ drybα -1e-02 rsut 0.0e+00 -2e-02 0e+00 ₹ 2000 2001 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 Year dry deposition rate of SO4 – shp–ind–shift total deposition rate of BC – shp-ind-shift dry deposition rate of SO2 – shp–ind–shift wet deposition rate of SO2 – shp–ind–shift wet deposition rate of SO4 – shp-ind-shift -2e-024e-01 1e-01 -3e-02 drybc + wetbc 3e-01 ∆ dryso2 ∆ dryso4 5e-02 3e-01 2e-01 -2e-0° -5e-02 0e+00 1e-01 2e-01 -3e-01 -5e-02 0e+00 1e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 $\frac{dryso2 + wetso2}{2 + (dryso4 + wetso4)/3}$ Ice water path - shp-ind-bimethyl sulphide (DMS) mole fraction total deposition rate cloud cover ambient aerosol optical thickness at 550nm - shp-ind-shif of S - shp-ind-shift percentage - shp-ind-shi 3e-01 1.5e-01 clivi (kg ${\sf m}^{-2}$ ) \_lom lom) smb 0.0e+00 expression cltc 1.0e-01 ∆ od550ae 0.0e+00 1e-01 -2 5e-01 5.0e-02 00+00 0.0e+00 -7.5e-01 20002001200220032004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 Year Year Year Year Year load load of so4 - shp-ind-shift of bc - shp-ind-shift 5e-01 0e+00 $\log dso4 \, \left( kg \; m^{-2} \right)$ oadbc (kg m<sup>-2</sup>) 4e-01 -1e-01 3e-01 -2e-01 2e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year