## NH-indian: absolute difference surface flux surface flux surface concentration surface concentration surface concentration of BC - shp-20p-red-1950 of SO2 - shp-20p-red-19! of BC - shp-20p-red-1950 of SO4 - shp-20p-red-19! of SO2 - shp-20p-red-19 -8 0e-01 1e-04 -2.0e+00 2e-01 \_4 0e+00 16-01 5e-05 ∆ emibc -2.4e+00 $\Delta so2$ -8 0e+00 0e+00 -1.6e+00 -1e-01 -2.8e+00 -1.2e+01-5e-05 -2.0e+0.0-3.2e+00 -1.6e + 0.12000 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 longwave flux at TOA – shp-20p-red-195 upwelling shortwave flux at TOA – shp-20p-red-195 incident shortwave flux at TOA – shp–20p–red–19! upwelling clear-sky longwav flux at TOA - shp-20p-red-1 net radiative flux at TOA - shp-20p-red-195 5.0e-02 4e-01 2e-02 1e-01 2e-01 ∆ rlut + rsut 0e+00 0e+00 0.0e + 000e+00 -1e-01 -2e-02 -2 5e-02 -2e-0 -2e-01 -2e-0 -4e-0 -5.0e-02 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 BC – shp–20p–red–1950 clear-sky net radiative implied cloud response wet deposition rate upwelling clear-sky shortwa flux at TOA - shp-20p-red-1 flux at TOA - shp-20p-red-1 at TOA - shp-20p-red-195 of BC - shp-20p-red-1950 rsutcs) 0.0e+00 2e-01 4e-01 rsutcs 2e-01 rlutcs --5.0e-02 ∆ rsutcs △ wetbc 0e+00 Δ drybα -8.0e-02 2e-01 rsut \_2e\_01 0e+00 -2e-01 ₹ -1.5e-01 \_1 6e\_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 Year Year Year Year Year total deposition rate of BC – shp–20p–red–1950 dry deposition rate of SO2 – shp–20p–red–19 wet deposition rate of SO2 – shp-20p-red-199 dry deposition rate of SO4 – shp–20p–red–19 wet deposition rate of SO4 – shp–20p–red–19 -8.0e-01 -8.0e-01 -2.4e+004e-01 -8.0e-01 -1.0e+00 drybc + wetbc -1.0e+00 0e+00 -1.2e+00 -1.2e+00-2.5e+00-1.4e+00 -4e-01 -1.2e+00 -2.6e+00 -1.6e + 0.0-1.6e + 0.02000 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 dryso2 + wetso2)/2 + (dryso4 + wetso4)/3Ice water path - shp-20p-Dantethyl sulphide (DMS) mole fraction - sh total deposition rate cloud cover ambient aerosol optical of S - shp-20p-red-19 percentage - shp-20p-red-1 thickness at 550nm - shp-20p-red-1 1.5e+00 1e-01 -2.2e+00 5e-02 clivi (kg m<sup>-2</sup>) \_lom lom) smp ctc 5.0e-01 ∆ od550aeı -2.3e+00 0e+00 0e+00 0.0e+00 -5e-02 -2.4e+00 -5e-01 -5.0e-01 -1e-01 -1.0e+00-1e+00 20002001200220032004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year Year load load of so4 - shp-20p-red-19 of bc - shp-20p-red-1950 -4.0e-0 $loadso4 (kg m^{-2})$ oadbc (kg m 0.0e+00 -8.0e-01 -1.2e+00 -2.5e-01 -1.6e+00

2000 2001 2002 2003 2004

Year

2000 2001 2002 2003 2004

Year