high-so4: percent difference surface flux surface flux surface concentration surface concentration of BC - NH-indian of SO2 - NH-indian of BC - NH-indian of SO4 - NH-indian of SO2 - NH-indian 5.0e-06 2e+00 00+00 0.0e + 001e+00 _2e+00 0e+00 -5.0e-06 6e+00 -3e+00 -1.0e-05 -4e+00 3e+00 -2e+00 -5e+00 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 Year upwelling longwave flux at TOA – NH–indian upwelling shortwave flux at TOA – NH–indian upwelling clear-sky longwav flux at TOA - NH-indian net radiative flux incident shortwave flux at TOA - NH-indian at TOA - NH-indian 2.5e-01 1e+00 1e-07 rsut 0.0e+00 ∆ rlut + 4e-01 0e+00 0e+00 -1e-01 -5e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2000 Year Year Year Year Year upwelling clear-sky shortway flux at TOA - NH-indian clear-sky net radiative flux at TOA - NH-indian implied cloud response dry deposition rate wet deposition rate at TOA - NH-indian of BC - NH-indian of BC - NH-indian rsutcs) 2.0e+00 2.0e+0.05e-01 1e+00 rlutcs -0e+001e+00 0e+00 1.0e+00 1.0e + 0.0rsut – 0e+00 5.0e-01 5.0e-01 -1e+00 0.0e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year dry deposition rate of SO4 – NH–indian total deposition rate of BC – NH–indian dry deposition rate of SO2 – NH-indian wet deposition rate of SO2 – NH-indian wet deposition rate of SO4 – NH–indian -1e+00-3.0e+00 8e+00 -2e+004e+00 wetso4 0e+00 dryso4 -3.5e+00-3e+00 2e+00 -2e+00 0e+00 -4.5e+000e+002000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 Year Year Year Year $\frac{1}{3} dryso2 + wetso2)/2 + \frac{1}{3} dryso4 + wetso4)/3$ Year total deposition rate ambient aerosol optical total cloud cover - NH-india convective cloud cover - NH-ii surface cloud cover - NH-indi of S - NH-indian thickness at 550nm - NH-ind 8e+0 1e+01 0e+00 6e+01 1e+00 5e+00 -2e+01∆ clt 4e+01 -4e+01 0e+00 2e+01 -2.5e-01 0e+00 -5e+00_1e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 20002001200220032004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year Year ice water path - NH-indian surface concentration column mass burden column mass burden column mass burden of SO4 - NH-indian of DMS - NH-indian of BC - NH-indian of SO2 - NH-indian 1.2e+00 1e+00 2e+00 7.5e+00 -3e+00 8.0e-01 5e-01 5.0e+00 dms 0e+00 0e+00 2.5e+00 -2e+00 -5e-01 0.0e+00 0.0e+00 -6e+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

CAM5

CESM1

CESM2

E3SM

GEOS

GFDL

GISS

MIROC

NorESM2

OsloCTM3

UKESM