SH-sea: percent difference surface flux surface flux surface concentration surface concentration surface concentration of BC - so2-at-height of SO2 - so2-at-height of BC - so2-at-height of SO4 - so2-at-height of SO2 - so2-at-height 8e+00 8e-01 36-05 0.0e+00 4e-01 ∆ mmrso4 ∆ mmrbc 1e+00 4e+00 0e+00 0e+00 2e+00 -1.5e+012002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year upwelling longwave flux at TOA – so2-at-height upwelling clear-sky longwav flux at TOA - so2-at-heigh net radiative flux upwelling shortwave flux incident shortwave flux at TOA - so2-at-height at TOA - so2-at-height at TOA - so2-at-height 1e-07 rsut 5e-08 ∆ rlut + 1e-01 0e+00 _5e_08 -1e-02 -1e-07 2002 2003 2004 2002 2003 2004 2000 2002 2003 2004 2002 2003 2004 2002 2003 2004 2001 2000 2001 Year Year Year Year Year clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - so2-at-height at TOA - so2-at-height of BC - so2-at-height of BC - so2-at-height rsutcs) 1e+00 2e-01 3e-01 rlutcs -∆ wetbc rsut-0e+00 _Oʻ 0e+00 _5e_01 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 dry deposition rate of SO2 – so2–at–height wet deposition rate of SO2 – so2–at–height dry deposition rate of SO4 – so2–at–height wet deposition rate of SO4 – so2–at–height total deposition rate of BC - so2-at-height 8e+00 6e+00 7.5e+00 6e+00 wetso2 2.5e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 Year Year Year Year total deposition rate ambient aerosol optical total cloud cover - so2-at-hei convective cloud cover - so2-at-l surface cloud cover - so2-at-h of S - so2-at-height thickness at 550nm - so2-at-h 1e-01 0e+00 -2e+01 2e+01 -4e+01 -2e-01 2e+35 1e+01 -6e+01 -3e-01 0e+00 20002001200220032004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2000 2001 2002 2003 2004 2000 2001 2003 2004 Year Year Year Year Year surface concentration column mass burden column mass burden column mass burden of DMS - so2-at-height of BC - so2-at-height of SO2 - so2-at-height of SO4 - so2-at-height 1.2e+01 1.0e+0.11e+01

