no-so4: percent difference surface flux surface flux surface concentration surface concentration surface concentration of BC - land of SO2 - land of BC - land of SO4 - land of SO2 - land 5.0e-01 2e+00 3.0e+00 ∆ mmrbc 1e+00 -1.2e+01 2.0e+00 _5 0e_01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year upwelling shortwave flux at TOA – land upwelling clear-sky longwa flux at TOA - land net radiative flux incident shortwave flux at TOA – land at TOA – land 4e-01 2e-01 5e-08 5.0e-02 rsut 2e-01 0e+00 ∆ rsut ∆ rlut + 0e+00 00+00 -5e-080.0e+00 -2e-01 -2e-0 -2.5e-02 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 clear-sky net radiative implied cloud response dry deposition rate wet deposition rate flux at TOA - land flux at TOA - land at TOA - land of BC - land of BC - land rsutcs) rsutcs rlutcs -4e - 01∆ wetbc 0e+00 ∆ rlutcs + 2e-01 -1e-01 rsut – _5e_0° -4e-01 0e+00 -2e-01 -1e+00 2002 2003 2004 2000 2001 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year total deposition rate of BC – land dry deposition rate of SO4 – land wet deposition rate of SO4 – land dry deposition rate wet deposition rate of SO2 - land of SO2 - land 3.0e+00 -1e+00 2.6e+00 -5.0e+00 2.5e+00wetso2 ∆ wetso4 2 0e+00 2 4e+00 -1.5e+011.5e+00 2.3e+00 -2 0e+01 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 ambient aerosol optical total cloud cover - land convective cloud cover - lai surface cloud cover - land of S - land thickness at 550nm - land 2.5e-01 0e+000.0e + 00-2e+01 ∆ od550ae <u>\</u> -4e-01 0.0e + 00-2.5e-01 -4e+01 -5.0e-01 -8e-01 -2.5e-01 -6e+01 -7.5e-0120002001200220032004 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 ice water path - land surface concentration column mass burden column mass burden column mass burden of DMS - land of BC - land of SO2 - land of SO4 - land 6e+00 5.0e-01 1e+00 4.0e+00

5.0e-05

