## shp-atl-shift: absolute difference surface flux surface flux surface concentration surface concentration surface concentration of BC - global of SO2 - global of BC - global of SO4 - global of SO2 - global 5e-03 1.5e-01 4e\_01 4e-03 1e-05 1.0e-01 3e-03 5.0e-02 2e-03 2e-01 0.0e+00 1e-03 1e-01 -5.0e-02 0e+00 -1e-05 0e+00 2000 2001 2002 2003 2004 2002 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year Year upwelling longwave flux at TOA – global upwelling shortwave flux at TOA – global net radiative flux at TOA – global upwelling clear-sky longwave flux at TOA - global incident shortwave flux at TOA – global 5.0e-02 8e-03 0e+00 -1e-02 4e-03 2e-03 -2e-02 0.0e + 0.0e +Ħ 0e+00 -3e-02 -4e-02 -2 5e-02 0e+00 -4e-02 -4e-03 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 - global flux at TOA - global at TOA - global of BC – global of BC - global 2e-02 rsutcs) 2e-02 1e-02 2e-02 0e+00 ∆ rlutcs + rsutcs 1e-02 0e+00 0e+00 rlutcs -0e+00 ∆ wetbc 0e+00 -2e-02rsut -4e-02 -2e-02 ₹ -2e-02 -6e 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 – global dry deposition rate of SO2 – global total deposition rate of BC – global wet deposition rate of SO2 – global wet deposition rate of SO4 – global 2e-01 -1.5e-02 2e-02 0.0e+00 drybc + wetbc -2.0e-02 1e-01 ∆ dryso2 ∆ dryso4 0e+00 -2.5e-02 -2 5e-02 0e+00-2e-02-5.0e-02 -3.0e-02 -7 5e-02 -4e-022000 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 $\frac{dryso2 + wetso2}{2 + (dryso4 + wetso4)/3}$ Dimethyl sulphide (DMS) mole fractic total deposition rate cloud cover Ice water path - global ambient aerosol optical of S - global percentage - global thickness at 550nm - global 3e-02 1e-01 2e-02 1e-01 0e+00 clivi (kg m<sup>-2</sup>) \_lom lom) smp 당 0e+00 0e+00 0e+00 ∆ od550ae -3e-02 expression -1e-01 -2e-02 -6e-02 -2e-0-4e-02 -9e-02 20002001200220032004 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2000 2001 Year Year Year Year Year load load of so4 - global of bc - global loadso4 (kg m<sup>-2</sup>) loadbc (kg m<sup>-2</sup>) 0e+00 1e-01 -1e-01 -2e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year Year