shp-atl-shift-1950: absolute difference surface flux surface concentration of BC – global surface flux surface concentration surface concentration of BC – global of SO2 - global of SO4 - global of SO2 - global 1.5e-05 1.2e-01 1.00-05 56-02 2e-03 5.0e-06 $\Delta so2$ 0e+00 1e-03 0.0e+00 1e-01 0e+00 -5e-02 -1.0e-05 0e+00 2.5e-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 upwelling longwave flux at TOA – global upwelling shortwave flux at TOA – global incident shortwave flux at TOA – global upwelling clear-sky longwav flux at TOA - global net radiative flux at TOA – global 5.0e-02 2e-02 2e-03 2e-02 4e-03 1e-03 1e-02 0e+00 0e+00 0e+00 0e+00 0.0e + 0.0e +∆ rlut -1e-03 -4e-03 -2 5e-02 -2e-02 -2e-02 -2e-03 -3e-02 -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 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 4e-02 2e-02 rsutcs 5e-03 5e-03 rlutcs -1e-02 0e+00 2e-02 ∆ rsutcs △ drybc △ wetbc 0e+00 0e+00 rsut -5e-020e+00 -5e-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 total deposition rate of BC – global dry deposition rate of SO2 – global wet deposition rate of SO2 – global dry deposition rate of SO4 – global wet deposition rate of SO4 – global 1.0e-01 1e-02 5e-02 1e-01 drybc + wetbc 0.0e+00 ∆ dryso2 ∆ dryso4 00+00 0.0e+000e+00 0e+00 -5e-02 -5.0e-02 -1e-02 -1 0e-01 -1e-01 -1e-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 dryso2 + wetso2)/2 + (dryso4 + wetso4)/3Dimethyl sulphide (DMS) mole fractic total deposition rate cloud cover Ice water path - global ambient aerosol optical thickness at 550nm - global 1e-01 1e-01 5.0e-02 0e+00 clivi (kg m^{-2}) 0e+00 _lom lom) smb cltc 0e+00 ∆ od550ae 2.5e-02 -1e-01 expression -2e-02 -1e-01 0.0e+0.0-2e-01 -2.5e-02 -4e-02 20002001200220032004 2002 2003 2004 2002 2003 2004 2002 2003 2004 2000 2001 2000 2001 2000 2001 Year Year Year Year Year load load of so4 - global of bc - global 5e-02 $loadso4 (kg m^{-2})$ oadbc (kg m $^{-2}$) 0e+00 1e-01 0e+00 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 Year