shp-ind-shift: absolute difference surface flux of SO2 – SH–land surface concentration of SO4 – SH–land surface concentration surface concentration of SO2 – SH–land surface flux of BC - SH-land 3.3e-15 0.0e+00 kg-1əmiso2 (kg m $^{-2}$ s $^{-1}$ nmrbc (kg kg-1) 1 6e-15 (kg kg - 1)2.5e-13 호 0.0e+00 _1 5e_10 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000.02002.52005.02007.5 2000.02002.52005.02007.5 Year Year Year Year Year upwelling longwave flux at TOA – SH–land upwelling shortwave flux at TOA – SH–land net radiative flux at TOA – SH–land incident shortwave flux at TOA – SH-land upwelling clear-sky longwa flux at TOA - SH-land 1e-01 $rsut (W m^{-2})$ rsut (W m-2) 2.5e-02 sdt (Wm-2)rlutcs (W m-0e+00 0.0e+00 0.0e+00 -1e-01 -2.5e-02 _1 0e_01 4e-07 -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 flux at TOA - SH-land clear-sky net radiative flux at TOA - SH-land implied cloud response at TOA – SH-land dry deposition rate of BC – SH–land wet deposition rate of BC – SH–land rsutcs (W m^{-2}) 2 8e-15 1e-01 rlutcs + rsutcs (W m⁻²) 1e-01 $\mathrm{vetbc}~(\mathrm{kg}~\mathrm{m}^{-2}~\mathrm{s}^{-1}$ Jrybc (kg m⁻² s⁻ 5e-02 rlutcs -0e+00 0e+00 rsut--1e-01 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 2002 2003 2004 2000 2001 Year Year Year Year Year total deposition rate of BC – SH–land dry deposition rate of SO2 – SH-land wet deposition rate of SO2 – SH-land dry deposition rate of SO4 – SH-land wet deposition rate of SO4 – SH-land 7 6e-15 4 2e-15 8e-14 3e-02 dryso2 (kg m $^{-2}$ s $^{-1}$) wetso2 (kg m^{-2} s⁻¹. dryso4 (kg $m^{-2} s^{-1}$ wetso4 $(kg m^{-2} s^{-1}$ 2.8e-15 4e-14 1.4e-15 _3 9e_15 0e+002000 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 Yea total deposition rate of S – SH–land cloud cover Ice water path - SH-lanc Dimethyl sulphide (DMS) mole fraction ambient aerosol optical thickness at 550nm - SH-la percentage - SH-land 1e-13 0.0e+00 2.5e-02 clivi (kg m^{-2}) _lom lom) smb 양 0.0e+00ession -2.5e-02 20002001200220032004 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 load load load of so2 - SH-land of so4 - SH-land of bc - SH-land 3e-09 oadso2 (kg m⁻²) oadbc $({\sf kg}\ {\sf m}^{-2})$ 4e-10 0e+00 0e+00 -3e-09 2000 2001 2002 2003 2004

emibc $(kg m^{-2} s^{-1})$

1 2e-19

-4.6e-19

-1.0e-18

2e-01

1e-01

0e+00

-1e-01

-2e-01

4e - 02

0e+00

4e-02

2.5e-15

1.5e-15

4.2e-16

-6.2e-16

1.5e-02

(kg m₋₅ s₋₁ 1.0e-02 5.0e-03

0.0e + 0.0

2e-08

1e-08

0e+00

-1e-08

Year

rlut (Wm-2)

rsutcs (Wm-2)

 $drybc + wetbc (kg m^{-2} s^{-1})$

dyso2 + wetso2)/2 + (dryso4 + wetso4)/3

loadso4 (kg m⁻²)

