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Climatology of aerosol component concentrations derived from multi-angular polarimetric POLDER-3 observations using GRASP algorithm

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Table S1. The definitions and descriptions of aerosol components with their complex refractive indices at 440 nm and 865 nm.

Component	Complex refractive index		Reference
	0.440 μm	0.865 μm	
BC represents wavelength-independent strong absorption	1.95+0.79i	1.95+0.79i	Bond and Bergstrom (2006)
	1.75+0.63i	1.75+0.63i	Bond and Bergstrom (2006)
BrC represents wavelength-dependent absorption	1.54+0.07i	1.54+0.003i	Sun et al. (2007)
	1.54+0.06i	1.54+0.0005i	Kirchstetter et al. (2004)
CAI mainly represents iron oxides contained in the coarse-mode dust particles	2.90+0.345i	2.75+0.003i	Longtin et al. (1988)
	2.88+0.987i	2.72+0.140i	Triaud (2005)
CNAI mainly represents coarse-mode non-absorbing dust particles	1.54+0.0005i	1.52+0.0005i	Ghosh (1999)
	1.53+0.005i	1.53+0.005i	Ghosh (1999); Sokolik and Toon (1999); Journet et al. (2014)
FNAI represents fine-mode non-absorbing insoluble dust and organic carbon	1.54+0.0005i	1.52+0.0005i	Ghosh (1999)
	1.53+0.005i	1.53+0.005i	Ghosh (1999); Sokolik and Toon (1999); Journet et al. (2014)
FNAS represents fine-mode inorganic salts	$1.337+10^{-9}$i	$1.339+10^{-8}$i	Tang et al. (1981); Gosse et al. (1997)
FAWC represents fine-mode aerosol water content	$1.337+10^{-9}$i	$1.329+10^{-6.5}$i	Hale and Querry (1973)

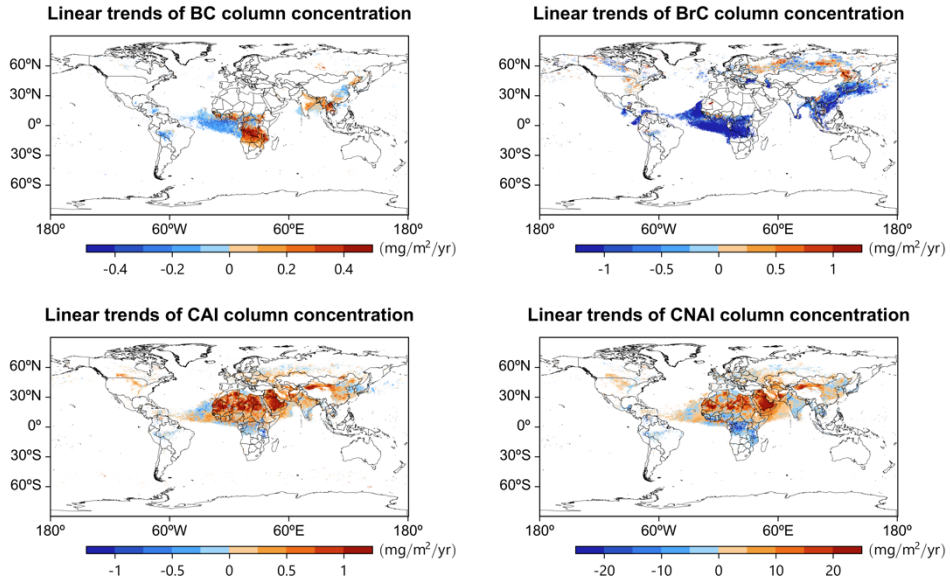

Figure S1. Linear trends in column concentration of BC, BrC, CAI and CNAI components with the criteria of AOD (440 nm) > 0.2 and for BC (> 1 mg/m^2), BrC (> 10 mg/m^2), CAI (> 2 mg/m^2), and CANI (> 50 mg/m^2).

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