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### Retrieval Algorithm Based on Combined Use of POLDI and Directionality of the Earth's Reflectances Biomass Aerosols

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#### Abstract

A procedure for aerosol retrieval by combining data provided by POLDI (Polarization of Light and Directionality of the Earth's Reflectances) and GLI (Global Imager) on the ADEOS-2 satellite (Advanced Earth Observing Satellite-2) is presented. The POLDI sensor provides three channels of unique directional polarization measurements. The GLI sensor provides high-resolution images over a wide range of wavele

thermal infrared. It is known that POLDER polarization data are effective for aerosol retrieval over land, and the ratio of reflectances at 0.40 and 0.38 $\mu\text{m}$  is used to distinguish between nonabsorbing and absorbing aerosols. Our algorithm is based on detecting the plume from Siberian biomass burning in May 2003. The algorithm properties are compared with model simulations and ground-based data (Global Robotic Network) data. The results show that our proposed algorithm is effective for retrieving data on the aerosol optical thickness.

Keywords: [Aerosols](#), [AOT](#), [POLDER-2](#), [GLI](#), [ADEOS-2](#)

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