

Interactive comment on “Light absorption by organic carbon from wood combustion” by Y. Chen and T. C. Bond

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Comment on ‘Light absorption by organic carbon from wood combustion’ by Y. Chen and T. C. Bond.

Earlier this year Yi Qin and I reported a classification of Australian episodic aerosol based on optical properties obtained from the inversion of Aeronet sky radiance distributions (<http://www.atmos-chem-phys.net/9/1943/2009/acp-9-1943-2009.html>). Of the four classes identified, one of the biomass burning types (class 3) showed evidence for significantly higher absorption in the blue spectral channel (440 nm) than at longer wavelengths, which we interpreted as possible evidence for absorption by organic carbon/hulis. We suggested the widespread and endemic hummock grass *Spinifex* (*triodia* sp.) as a possible source for this aerosol.

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Could the authors comment on (a) the plausibility of the organic materials they consider in producing the differential absorption we observed (decrease in single scattering albedo from 0.61 at 670nm to 0.58 at 440nm – see Fig. 9 of our paper, lower red line) and (b) suggested approach to including the organic material in Mie theory calculations (e.g., black carbon spheres with organic mantles etc)

Thank you for an interesting and well-presented paper.

Ross Mitchell

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 20471, 2009.

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