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Interactive comment on “Input and output of dissolved organic and inorganic nitrogen in subtropical forests of South China under high air pollution” by Y. T. Fang et al.

Anonymous Referee #1

Received and published: 19 November 2007

General comments

The paper reports the concentrations and fluxes of dissolved inorganic (DIN) and organic nitrogen (DON) in precipitation, throughfall, surface runoff and soil solution for two young and one old-growth forests in a subtropical region of South China under elevated air pollution. The highest DON ever measured in precipitation is reported and its importance in the nitrogen budget is discussed. The subject is relevant to BG. The English is understandable. The approach is correct and clear. Discussion and conclusions are consistent with the data, and are put in the context of the main literature. The results contribute to understand the current N status and cycling in warm humid forest

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ecosystems and how precipitation N interacts with forest canopies in these climates. As new data are reported for a region that is both under-investigated and at elevated pollution risk, I recommend this paper for publication in BG.

Minor comments

Abstract – Add the work was carried out over two years (2004-2005).

L1-3 P4136 The phrase is unclear. Check the English.

L15 P4139 “was” not “were”

Ch 2.3 – Add a definition for DIN

L19 P4142 “were” not “was”

Figs 2-4 – Difficult to understand. Please use different line styles for the different datasets. “precipitation” not “precpitation”, “throughfall” not “throughfall”

L10 P4143 The meaning is unclear to me: as there were no difference between bulk and wet deposition, then you used the means of the three collectors in open air. The means between what? To do what? Something is missing here.

Table 2 – It is unclear what the letters indicate. You say “differences among treatments within the same forest”. Which treatments? Maybe “differences among forests within the same water collection type”

L26 P4143 Please show the statistics of this weak correlation

Fig.6 caption – “to calculate throughfall” not “to calculated for throughfall”

Ch. 4.1. – Although the contribution of dry deposition is very small, it should be better quantified and discussed relative to temperate and boreal forests, where dry deposition may contribute about one third of total N

Literature – have a look at Magnani et al 2007 Nature 447:848-850, suggesting temperate and boreal forests are not N saturated

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Interactive comment on Biogeosciences Discuss., 4, 4135, 2007.

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