**Atmospheric
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Interactive comment on "Inverse modelling-based reconstruction of the Chernobyl source term available for long-range transport" *by* X. Davoine and M. Bocquet

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General impression about the paper is very good, since it allowed very accurate (in my opinion) source term estiamtion based on the very limited apriory information and measurements far from the source.

However my specific comment is about Figure 9. It seems to me that it is a bit misleading because the results in it cannot be compared directly with the results in Figures 3 and other. This is because Gaussian distribution of the source term (corresponding to the Fig. 9) has mean value of the source term equal to zero. Thus the regularisation term in functional 10 tends the estimated source term closer to zero value. While the

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Bernoulli distribution for the source term, used in Figure 3 has mean value greater then zero. I suppose that if one uses the Gaussian distribution with the same mean value of the source function as in the case of Bernoulli distribution, the negative values in the source term estimation will be significantly less by magnitude as they appear in Fig. 9.

Interactive comment on Atmos. Chem. Phys. Discuss., 7, 1, 2007.

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