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Interactive comment on "Equilibrium of sinks and sources of sulphate over Europe: comparison between a six-year simulation and EMEP observations" *by* M. Ménégoz et al.

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Sulphur budget simulated by MOCAGE over Europe is available at ftp://cnrm-ftp.meteo.fr/pub-ext/menegoz/sulphur_budget_mocage.pdf. This figure shows the sulphur budget over the domain considered on this study (between 30°W to 40°E in longitude and 30°N to 85°N in latitude). Main source of sulphur is coming from anthropogenic SO2 emissions (526.45 mg[S].m-2.year-1). DMS, H2S and sulphate direct emissions are of the same order of magnitude, approximately 20 times lower than SO2 emissions. Main sink for SO2 is dry deposition (229.13 mg[S].m-2.year-1) followed by aqueous chemistry (200.56 mg[S].m-2.year-1), then by wet deposition (68.75

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mg[S].m-2.year-1), gaseous chemistry (61.95 mg[S].m-2.year-1) and transport toward the exterior of the domain (41,62 mg[S].m-2.year-1).Aqueous phase SO2 oxidation is the main source for sulphate (200.56 mg[S].m-2.year-1), followed by gaseous oxidation (61.95 mg[S].m-2.year-1), and direct emissions (12.41 mg[S].m-2.year-1). Main sulphate sinks are wet deposition (127.22 mg[S].m-2.year-1), followed by the transport toward the exterior (96.62 mg[S].m-2.year-1) and dry deposition (5089 mg[S].m-2.year-1).

Interactive comment on Atmos. Chem. Phys. Discuss., 9, 4381, 2009.