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Effects of turbulence multifractality in pollutant dispersion

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Sooth-particle pollutants, as passive tracers in the velocity field of turbulent fluctuations, are subject to both the influence of multifractality in the velocity field, as well as of immediate human action, in terms of emissions. Previous studies have shown that non-stationarity in the generator of a multiplicative cascade can be tracked by means of the breakdown coefficients of the generated multifractal field. The present work focuses on the extent, to which the same method is applicable to tracers in multifractal fields, and on separating the non-stationarity due to the advecting velocity field from those originating in the emission process. An application to Mexico City atmospheric pollution is presented.