PHAST: a phase-diffusion model for stochastic nowcasting

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Stochastic nowcasting methods generate ensemble forecasts of precipitation intensities, where individual ensemble members can be considered as different possible realizations of the precipitation process. Here we discuss an ensemble rainfall nowcasting technique based on the extrapolation of radar observations by a diffusive process in Fourier space, where power spectral amplitudes are kept constant and Fourier phases evolve by a Ornstein-Uhlenbeck stochastic process.