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# Construction of linear and nonlinear Markov processes via SDEs driven by nonlinear Lévy noise

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We develop the theory of SDE driven by nonlinear Lévy noise, aiming at applications to Markov processes. In particular, it is shown that a conditionally positive integro-differential operator (of the Lévy-Khintchine type) with variable coefficients (diffusion, drift and Lévy measure) depending Lipschitz continuously on its parameters generates a (generally nonlinear) Markov semigroup, where the measures are metricized by the Wasserstein-Kantorovich metrics  $W_p$ .