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OH 44242. *A Diffusion Model for Compositional Data.*

We present a class of stochastic processes in continuous time which take as values vectors with non-negative components adding up to 1, and show their use as models for compositions continuously changing in time. They are defined as solutions of a stochastic differential equation, in such a way that the invariant distribution is Dirichlet. The aggregation property of this distribution can be exploited to allow the study of compositions at different levels; for example, modeling the composition over time of a portfolio of stock shares at the sector, industry, or individual firm levels. We will discuss some aspects of inference for this model. (Received February 02, 2017)