## Modelling animal movement with directional persistence and attractive points

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Animal movement data are becoming widely available since GPS technology became more accessible to researchers. To analyze such data, different approaches have been proposed, and among them, hidden Markov models with the Ornstein-Uhlenbeck or the step-and-turn emission distribution are the most commonly used. The former characterizes movement with the use of a center of attraction, while the latter has directional persistence. In this work we propose a nonparametric Bayesian Hidden Markov model with emission distribution that posses the defining characteristics of the two aforementioned approaches. With this model, at any given time, an animal can exhibit a different degree of directional persistence and attraction to a point in space.