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**Charles L. Epstein** and **Camelia A. Pop\*** (capop@umn.edu). *Transition probabilities for degenerate diffusions arising in population genetics*. Preliminary report.

Generalized Kimura operators are a class of boundary-degenerate elliptic operators, introduced in the work of Charles Epstein and Rafe Mazzeo, to provide a unified framework for the study of diffusion processes arising in population genetics. They are an extension of the Wright-Fisher model for gene frequencies, and are defined on compact manifolds with corners, of which simplices are particular examples. In the present work, we study the structure and regularity properties of the transition probabilities of generalized Kimura diffusions. (Received September 04, 2015)