

Abstract Submitted
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Genetic recombination models in molecular evolution ENRIQUE MUNOZ, Department of Physics and Astronomy, Rice University, JEONG-MAN PARK, Rice University and Department of Physics, Catholic University of Korea, MICHAEL DEEM, Department of Physics and Astronomy, Rice University — We introduce generalizations of two classical models of molecular evolution: the parallel or Crow-Kimura model, and the Eigen model. These generalizations include, in addition to point mutations and selection as driving forces for biological evolution, the presence of different forms of horizontal gene transfer and genetic recombination events between individuals in the population. We will present analytical solutions for these models, and compare our results with numerical solutions of the corresponding system of differential equations. We will also present stochastic simulation results for the single peak fitness case.

Enrique Munoz
Department of Physics and Astronomy, Rice University

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