

**Simple Bit-String Speciation Model** P.M.C. de Oliveira, J.S.á  
Martins, D. Stauffer and S. Moss de Oliveira ()

Abstract: A population dynamics model, where individual genomes are represented by bit-strings, is introduced. Selection is described by death probabilities which depend on these genomes, and new individuals continuously replace the dead ones. An offspring has the same genome as its (randomly chosen) parent, except for a small amount of (also random) mutations. By chance, some newborn could present a better genome than its own parent, in the sense of a smaller death probability: in this case, this individual could be the founder of a new species, if its descendance grows above a certain previously defined limit. The time evolution of such populations is followed by computer simulations, and many quantities are measured as functions of time and genome length.