A class of individual–based models

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We discuss a class of mathematical models of biological populations at *microscopic* level — i.e. at the level of interacting individuals of the population. The class leads to *partially integral Markov semigroups*. We state the conditions guaranteeing the asymptotic stability. In particular under some assumption it may be shown that any, even non–factorized, initial probability density tends in the evolution to a factorized equilibrium probability density [4]. We discuss possible applications of the general theory — redistribution of individuals [2], thermal denaturation of DNA [1], and tendon healing process [3].

References

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