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Numerical analysis of a population model of marine invertebrates with different life stages

In this work, we consider an age-structured population model of marine invertebrates whose life stage is composed of sessile adults and pelagic larvae, such as barnacles contained in a local habitat. In the model, proposed by Roughgarden and Iwasa and mathematically analyzed by Kamioka, space is the principal limiting resource. The long time simulation of this kind of coupled systems is difficult. Here, we propose and analyze a numerical method in order to investigate the asymptotic behavior of the solutions.

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