

Computational Study of a Bioreactor Model with Microbial Growth Phases and Spatial Dispersal

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We consider a batch mode bioreactor model proposed in [?]. The model is developed using the fact that the bacterial growth undergoes several phases: lag, log, stationary and death phase [?], [?]. First we modify the model by introducing additional (the so-called transport) terms to describe continuously stirred bioreactor dynamics. Then we extend the model by adding diffusion terms to the equations [?]. The latter reaction diffusion equations are studied numerically. Thereby, solutions in the form of travelling waves are found.

References

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