

**Franke, E. K.**

**A mathematical model of synchronized periodic growth of cell populations.** (English)

Zbl 1170.92319

J. Theor. Biol. 26, No. 3, 373-382 (1970).

Summary: It is shown that the periodic change of growth rate in an externally synchronized cell population growing in a chemostat can be fully accounted for by the properties of the renewal equation. The amplitude of the oscillations depends only on the strength of the synchronizing stimulus, the mean generation time, and its standard deviation.

**MSC:**

92C37 Cell biology

92D40 Ecology

Cited in 10 Documents

**Full Text:** [DOI](#)

**References:**

- [1] Bromwich, T. J.I., An Introduction in the Theory of Infinite Series, ((1931), Macmillan: Macmillan London), 189, (1955)
- [2] Bronk, B. V.; Dienes, G. J.; Paskin, A., Biophys. J, 8, 1353 (1968)
- [3] Edmunds, L. N., J. cell Physiol, 67, 35 (1966)
- [4] Goodwin, B. C., (Symp. Soc. gen. Microbiol, 19 (1969)), 223
- [5] Harris, T. E.; Bellman, R., The Theory of Branching Processes, ((1963), Prentice-Hall: Prentice-Hall New York), 140
- [6] Hirsch, H. R.; Engelberg, J., Bull. math. Biophys, 28, 391 (1966)
- [7] Hirsch, H. R.; Engelberg, J., J. theor. Biol, 9, 303 (1965)
- [8] James, T. W., Ann. N.Y. Acad. Sci, 90, 550 (1960)
- [9] Martinez, H., Bull. math. Biophys, 28, 411 (1966)
- [10] Von Foerster, H., (Stohlman, F., The Kinetics of Cell Proliferation (1959), Grune and Stratton: Grune and Stratton New York)
- [11] Wille, J. J., J. Protozool, 15, 785 (1968)

This reference list is based on information provided by the publisher or from digital mathematics libraries. Its items are heuristically matched to zbMATH identifiers and may contain data conversion errors. It attempts to reflect the references listed in the original paper as accurately as possible without claiming the completeness or perfect precision of the matching.