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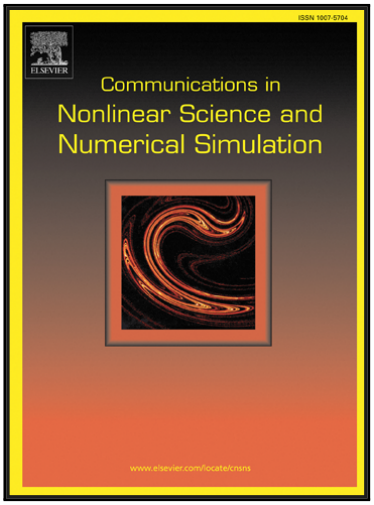

The regulatory system for diabetes mellitus: modeling rates of glucose infusions and insulin injections

Jin Yang, Sanyi Tang, Robert A. Cheke

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Highlights

- We develop novel glucose-insulin systems modeling rates of glucose infusions and insulin injections.
- The periodic solution for type 1 and permanence for type 2 diabetes of the system have been studied.
- The results showed that the period, the frequency and the dose of glucose infusions and insulin injections are crucial.
- The blood concentration can be controlled within a normal range using the proposed models.

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