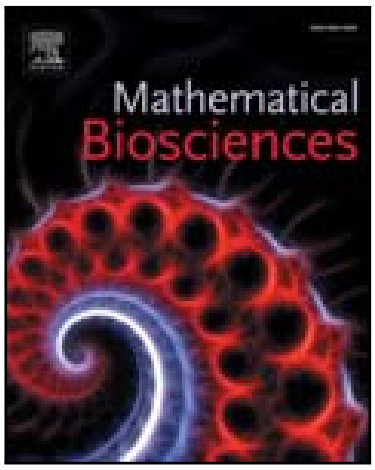

Fluctuating periodic solutions and moment boundedness of a stochastic model for the bone remodeling process

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Highlights

- A stochastic model for bone remodeling process based on the interaction between the osteoclast and osteoblast cells is proposed and analyzed.
- The existence and uniqueness of a positive fluctuating oscillatory solution with bounded moments are proven.
- A novelty numerical algorithm (Steklov method) for stochastic differential equations is used to obtain effcient numerical simulations.
- Accurate long-time simulations of the stochastic solution and its first moments are computed in order to provide experimental data for bone remodeling process.