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Bidirectionality from Cargo Thermal Fluctuations in Motor-Mediated Transport

Christopher E. Miles, James P. Keener

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Highlights

- A mean-field model of motor-mediated transport highlighting cargo diffusion is proposed
- Analysis provides a novel heuristic approximation of delayed motor response to cargo fluctuations
- Model is reduced to a “characteristic distance”, a proxy for the mean instantaneous cargo velocity
- Cargo diffusion alone is a sufficient noise source to drive switching
- Computation of the switching time agrees with experiments provides additional predictions

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