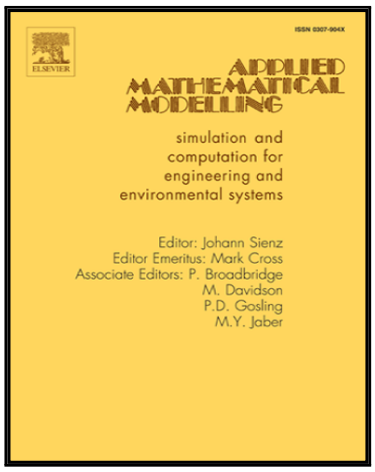

A Free Boundary Problem for Aedes aegypti Mosquito Invasion

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Highlights

- Propose an advection-reaction-diffusion model with free boundary describe the invasive process of Aedes aegypti mosquitoes
- Show that there are two main scenarios of invasive regime: vanishing regime or spreading regime
- Provide an estimate to show that the boundary moving speed cannot be faster than the minimal traveling wave speed
- Results can be applied to help designing effective prevention and control measures for dengue, chikungunya and Zika