Organizing Filament of Small Amplitude Scroll Waves

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Abstract: We theoretically analyze the organizing filament of small amplitude scroll waves in general excitable media by perturbation method and explicitly give the expressions of coefficients in Keener theory. In particular for the excitable media with equal diffusion, we obtain a close system for the motion of the filament. With an example of the Oregonator model, our results are in good agreement with those simulated by Winfree.

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