

Global existence of weak solutions for a degenerate haptotaxis model of cancer invasion

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Abstract

We propose and study a highly nonlinear strongly coupled PDE-ODE system with degenerate diffusion and haptotaxis that can serve as a model prototype for cancer invasion through a tissue network. For this model we obtained the global existence of weak solutions. The approach is based on the compactness method and, due to the complexity of the system, required novel analytical ideas.