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Global existence, persistence and spreading speeds of a parabolic-parabolic chemotaxis model with logistic source

Chemotaxis models are used to describe the evolution of species in response to certain chemical substances in their living environments. In this talk, we will first introduce chemotaxis model. Then, we talk about the global existence and persistence of classical solutions under the condition that chemotaxis is small relative to the logistic damping. Next, under the same condition, we show that the spreading speed is the same as that of Fisher-KPP equation which implies that chemotaxis neither speeds up nor slows down the spatial spreading in the Fisher-KPP equation.