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"Stability of single transition layer solutions in mass-conserving reaction-diffusion systems with bistable nonlinearity "

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Mass-conserving reaction-diffusion systems with bistable nonlinearity are considered under general assumptions, which are useful models for studying cell polarity formation, whose process is key in cell division and differentiation. The existence of stationary solutions with a single internal transition layer is shown by using the analytical singular perturbation theory. Moreover, a stability criterion for the stationary solutions is provided by calculating the Evans function. This is a joint work with Masataka Kuwamura of Kobe University.