

Transition fronts for monostable reaction-diffusion equations

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The standard notions of reaction-diffusion traveling fronts can be viewed as examples of generalized transition fronts. These notions involve uniform limits, with respect to the geodesic distance, to a family of hypersurfaces which are parametrized by time. The existence of transition fronts has been proved in various contexts where the standard notions of fronts make no longer sense. Even for homogeneous equations, fronts with varying speeds are known to exist. In this talk, I will first review the various notions of standard and transition fronts and I will then report on some recent existence results and qualitative properties of transition fronts for monostable homogeneous and heterogeneous one-dimensional equations. I will also discuss their asymptotic past and future speeds. The talk is based on some joint works with Luca Rossi.