

# An $(N - 2)$ -dimensional surface with positive principal curvatures gives an $N$ -dimensional traveling front in the Allen-Cahn equation

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Multi-dimensional traveling fronts have been studied by mathematicians for bistable reaction-diffusion equations in the whole space. V-form fronts are studied by Ninomiya and myself (2005). Cylindrically symmetric traveling fronts have been studied by Hamel, Monneau and Roquejoffre (2005). Pyramidal traveling fronts are studied by myself (2007) and Kurokawa and myself (2011). In this work, we show that an  $(N - 2)$ -dimensional surface with positive principal curvatures gives an  $N$ -dimensional traveling front in the Allen-Cahn equation.