

Blow-up on a star-graph

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We consider a metric star graph endowed with a nonlinear Schrödinger equation with critical nonlinearity. Depending on the mass of the initial datum, the corresponding solution might be global or blow-up in finite time. At the mass-threshold, we construct a solution with arbitrary energy, which blows up in finite time at the vertex of the star graph. The blow-up profile and blow-up speed are characterized explicitly. This is a joint work with François Genoud and Julien Royer.

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