

Bubbling singularities along a 2D heat flow with exponential nonlinearity

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Let $\Omega \subset \mathbb{R}^2$ a smooth bounded domain. We consider solutions to the flow $e^{u^2} \partial_t u - \Delta_x u = \lambda(t) u e^{u^2}$ where $u : [0, +\infty) \times \Omega \rightarrow \mathbb{R}$ satisfies Dirichlet boundary condition and where the L^1 -norm of e^{u^2} is preserved. In this talk, we will describe the singularities arising potentially along this flow. This is joint work with T.Lamm and M.Struwe.