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Michinori Ishiwata, Bernhard Ruf, Federica Sani* (`federica.sani@unimi.it`) and **Elide Terraneo**. *A potential well argument for a heat equation with exponential nonlinearity in \mathbb{R}^2* . Preliminary report.

We introduce a potential well argument for a semilinear heat equation with exponential nonlinearity in \mathbb{R}^2 and initial data in $H^1(\mathbb{R}^2)$. We focus the attention on solutions below the ground state energy level, and we show that the dichotomy between blow-up and global existence is determined by the sign of a suitable auxiliary functional. (Received January 26, 2019)