Remarks on the Blow-up for the Schrödinger Equation with Critical Mass on a Plane Domain

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Abstract. In this paper we concentrate on the analysis of the critical mass blowing-up solutions for the cubic focusing Schrödinger equation with Dirichlet boundary conditions, posed on a plane domain. We bound the blow-up rate from below, for bounded and unbounded domains. If the blow-up occurs on the boundary, the blow-up rate is proved to grow faster than $(T - t)^{-1}$, the expected one. Moreover, we show that blow-up cannot occur on the boundary, under certain geometric conditions on the domain.