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Justin Holmer* (holmer@math.berkeley.edu), University of California, Department of Mathematics, #3840, Berkeley, CA 94720, and **Svetlana Roudenko**. *Blow-up and scattering for the 3d nonlinear Schrödinger equation.*

We consider the 3d cubic focusing nonlinear Schrödinger equation

$$i\partial_t u + \Delta u + |u|^2 u = 0$$

and provide sharp sufficient conditions for scattering and blow-up phrased in terms of a scale-invariant mass-energy product. In recent work, we have removed the radially assumption that appeared in our earlier result. We also discuss an extension of a result of Merle-Raphael (2006) on the divergence of the critical Sobolev norm $\dot{H}^{1/2}$ for blow-up solutions. (Received August 21, 2007)