Stable blowup in semilinear wave equations

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Abstract. We consider wave equations with power nonlinearities of the form

$$\partial_t^2 u(t,x) - \Delta u(t,x) = u(t,x)|u(t,x)|^{p-1}, \tag{1}$$

for $p > 1$, $x \in \mathbb{R}^d$ and $d \geq 3$. It is well-known that the equation admits finite time blowup of solutions from smooth, compactly supported initial data. In this talk, I discuss recent progress in the investigation of stable blowup dynamics for Eq. (1). The focus will be on energy supercritical nonlinearities $p > \frac{d+2}{d-2}$. This talk is based on joint work with Roland Donninger (University of Bonn).

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