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Yakov Shlapentokh-Rothman*, Fine Hall, Washington Road, Princeton, NJ 08544. *The asymptotically self-similar regime for the Einstein vacuum equations.*

We will dynamically construct singular solutions to the Einstein vacuum equations which are asymptotically self-similar in that successive rescalings around the singularity converge to a self-similar solution. Connections both to Christodoulou's bounded variation solutions of the spherically symmetric Einstein-scalar field system and to the ambient metric construction of Fefferman and Graham will be elaborated on. This is joint work with Igor Rodnianski. (Received September 23, 2017)