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**Explosive percolation transitions in Euclidean space** YOUNG SUL CHO, SUNGMIN HWANG, Seoul National University, HANS JÜRGEN HERMANN, Eidgenössische Technische Hochschule Zürich, BYUNGNAM KAHNG, Seoul National University — Since the explosive percolation transition was discovered in a random graph model in the Achlioptas process, whether the explosive percolation transition is indeed discontinuous or continuous has been controversial. Even though extensive studies have been focused on the mean-field behavior of the type of the explosive percolation transition, only a few studies are carried out in Euclidean space. Here, we show that depending on a parameter we introduce, the explosive percolation transition can be either discontinuous or continuous transition in Euclidean space, and is reduced to be continuous in the mean-field limit, which can be shown using an analytic approach.

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