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*Properties of the IIC of high-dimensional percolation.*

ABSTRACT: The “incipient infinite cluster” (IIC) of percolation is the critical cluster at the origin conditioned on being infinite. Constructing the IIC is not a trivial matter and requires a proper limiting scheme of conditional percolation measures. We will discuss how to do this for a general class of high-dimensional percolation models. Then we will discuss some properties of the IIC such as the volume of the intersection between the IIC and Euclidean balls. To conclude we will discuss the Alexander-Orbach conjecture, which is a conjecture about the subdiffusive nature of simple random walk on the IIC. (Joint work with Markus Heydenreich and Remco van der Hofstad.)