

# Hamiltonicity of random geometric graphs

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## **Abstract**

We prove that, in the Gilbert model for a random geometric graph, almost every graph becomes Hamiltonian exactly when it first becomes 2-connected. This proves a conjecture of Penrose.

We also show that in the  $k$ -nearest neighbour model, there is a constant  $\kappa$  such that almost every  $\kappa$ -connected graph has a Hamilton cycle.