1047-60-419 **Paul Balister*** (pbalistr@memphis.edu), Department of Math Sciences, University of Memphis, Memphis, TN 38152, and **Béla Bollobás** and **Mark Walters**. *Random transceiver networks.*

Consider randomly scattered radio transceivers in R^d, each of which can transmit signals to all transceivers in a given randomly chosen region about itself. If a signal is retransmitted by every transceiver that receives it, under what circumstances will a signal propagate to a large distance from its starting point? Put more formally, place points $\{x_i\}$ in R^d according to a Poisson process with intensity 1. Then, independently for each x_i, choose a bounded region A_{x_i} from some fixed distribution and let G be the random directed graph with vertex set $\{x_i\}$ and edges $x_i\vec{x}_j$ whenever $x_j \in x_i + A_{x_i}$. We show that for any $\eta > 0$, G will almost surely have an infinite directed path provided the expected number of transceivers that can receive a signal directly from x_i is at least $1 + \eta$, and the regions $x_i + A_{x_i}$ do not overlap too much (in a sense that we shall make precise). (Received February 02, 2009)