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## Direct Transmission of Light Along Causal Links

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### **Abstract**

We study the transmission of light from a source to a distant receiver within a background causal set, modeling this process in terms of a discrete (and classical) analog of a massless scalar field. Assuming the transmission to be described by a “propagator” that transmits information directly along causal links, we fail (so far) to turn up any observable effects of the underlying discreteness. Although disappointing as far as it goes, this negative result refutes claims that replacing the Lorentzian manifold with a discrete microscopic structure necessarily disrupts the ordinary laws of propagation of light.