

Abstract Submitted  
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**Quantum Collect Calling** EDUARDO MARTIN-MARTINEZ, Institute for Quantum Computing / Perimeter Institute for Theoretical Physics — We show that it is possible to use a massless field in the vacuum to communicate in such a way that the signal travels slower than the speed of light and such that no energy is transmitted from the sender to the receiver. Instead, the receiver has to supply a signal-dependent amount of work to switch his detector on and off. This type of signalling is related to Casimir-like interactions and it is made possible by dimension —and curvature— dependent subtleties of Huygens' principle. We will also discuss several implications of this effect in diverse scenarios ranging from quantum communication to Cosmology.

Eduardo Martin-Martinez  
Institute for Quantum Computing / Perimeter Institute for Theoretical Physics

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