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## Relativistic tunneling and attempts at superluminal signaling

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Numerical solutions of the Dirac equation show that, post-selected for tunneling, relativistic electrons can exhibit transit time distributions with a peak corresponding to superluminal effective velocity. However, a non-negligible effect is seen only when tunneling probability is very small. If one attempts to send a signal using many electrons to compensate for the low tunneling probability, a distribution of signaling times is obtained with superluminal effective speed. However, we find that the signal always arrives slightly earlier if carried by the same number of photons traveling in a vacuum. The effective superluminality that is seen results from the uncertainty in the initial particle - electron or photon - position.

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