

Entanglement and Violation of Kramers-Kronig Relations (Not Causality)

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Entanglement creates an instant action between two distant parties which is not limited by the speed of the light (c). When a signal exceeds c , the order of two events can change in special theory of relativity -so in classical Electromagnetism. Quite intriguingly, we observe that onset of entanglement is indeed followed by violation of Kramers-Kronig in an exactly solvable optical system. That is, this feature is somehow inherited in the full-frequency spectrum.