

## Wrong vertex displacements due to Lee-Wick resonances at LHC

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We show how a resonance from the recently proposed Lee-Wick Standard Model could lead to wrong vertex displacements at LHCb.

We study which could be the possible 'longest lived' Lee-Wick particle that could be created at LHC, and we study its possible decays and detections. We conclude that there is a region in the parameter space which would give wrong vertex displacements as a unique signature of the Lee-Wick Standard Model at LHCb. Further numerical simulation shows that LHC era could explore these wrong vertex displacements through Lee-Wick leptons below 500GeV.

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