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Searching for new collider resonances through topological models

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We propose a systematic way of searching for new physics at colliders that compliments existing strategies. Starting from a given final state topology we survey the possible resonance structures that lead to such a final state. As a case study we examine the $lljj$ final state and propose analysis techniques and give sensitivity estimates for the $\sqrt{s} = 14 \text{ TeV}$ and $\mathcal{L} = 300 \text{ fb}^{-1}$ LHC run.

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