

Abstract Submitted
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Using dispersion relations to look for new physics in pp elastic scattering at the LHC PETER DENTON, THOMAS WEILER, Vanderbilt University — The presence of new particles at the TeV+ scale is common to many new physics models. We provide a novel way for possibly probing the existence of a broad class of such models. The usage of integral dispersion relations (IDRs) is a well established technique for examining properties of pp scattering at all energies. IDRs rely on Cauchy's integral formula and the analyticity of the scattering amplitude. In this talk, we analyze the possibility to extend to energy reach of colliders. We find that IDRs do allow the inference of new physics beyond the reach of direct production. However, the extended reach seems to be small. We explain why.

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