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Soft Scattering at LHC Energies, Amplitudes and Cross Sections

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We briefly describe the elements of the GLM model, that successfully describes both elastic and diffractive hadronic interactions at energies from ISR to LHC. The model is based on a single Pomeron with a large intercept \Delta_{Pom} = 0.23 and slope \alpha'_{Pom} ˜ 0, and so provides a natural matching with perturbative QCD. We analyze the energy behaviour of the elastic, single diffractive and double diffractive amplitudes, and compare their behaviour with competing parametrizations and available data. We present results of the application of the GLM model in calculating long range rapidity correlations in soft interactions, and compare with LHC data.

Primary author: GOTSMAN, Errol (Asher) (Tel Aviv University)

Co-authors: LEVIN, Evgeny (Tel aviv University); MAOR, Uri (Tel Aviv University)

Presenter: GOTSMAN, Errol (Asher) (Tel Aviv University)

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