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High Energy Proton-Proton Elastic Scattering in Reggeon-Pomeron Exchange Model

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Abstract: We initially propose a Reggeon-Pomeron exchange model to describe proton-proton elastic scattering at high energies in this short paper. A calculation for total cross section of proton-proton elastic scattering at high energies is performed without any free parameters. Our new finding from this work is that the Reggeon-Pomeron model gives a perfect fit to experimental data of the total cross section at the whole energy region where experimental data exist.

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Key words: Reggeon-Pomeron model, Reggeon, Pomeron, Regge theory, high energy elastic scattering