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Roy Glauber and asymptotic diffraction theory

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I shall present a review of Glauber's asymptotic diffraction theory, in which diffractive scattering is described in terms of interference between semiclassical amplitudes, resulting from a stationary-phase approximation to the integration over impact parameters. Typically two such amplitudes are sufficient to accurately describe elastic scattering, but the stationary points are located at complex values of the impact parameter. Their separation controls the interference pattern, and their offset from the real axis determine the overall fall-off with momentum transfer. Asymptotically, at large momentum transfers, the stationary points move towards singularities of the profile function. I shall also present some reminiscences from my collaboration with Roy.

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