

Nonlocality of QED interaction and high-energy behavior of total cross sections

Gainutdinov R., Mutygullina A.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

UV divergences present difficulties in the use of a consistent quantum electrodynamic theory in describing the natural broadening of spectral line profiles of atoms. It is shown that from the nonlocality of two-particle interactions, it follows that in the high energy limit, the total hadron cross sections must grow as the square of the logarithm of the energy.
