

Phenomenology of Vector-Meson Electroproduction on Spinless Targets

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The amplitude ratios of vector-meson production by heavy photons on spinless targets are shown to can be explicitly expressed in terms of the spin-density-matrix elements (SDMEs) only if the lepton beam is polarized. Making use of the amplitude ratios as free fit parameters instead of the SDMEs reduces the number of the real parameters in data description from 23 to 8. The exact formula for virtual-photon longitudinal-to-transverse cross-section ratio, R in terms of the SDMEs is obtained for spinless targets and the new approximate formula for R is proposed for nucleons.

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