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Rho meson form factors in the point form

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We present results for the electromagnetic form factors of the ρ meson obtained within point-form relativistic quantum mechanics. In our formalism for the calculation of the meson current we treat elastic electron-meson scattering as a Poincaré-invariant coupled-channel problem for a Bakamjian-Thomas mass operator. From the resulting invariant one-photon-exchange amplitude we extract the meson current. The well-known violation of cluster separability in the Bakamjian-Thomas framework causes the appearance of unphysical contributions in the current, which, however, can be separated unambiguously from the physical ones such that we obtain a current with all required properties.

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