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Signs of universal vector-meson coupling constants f_ρ, f_ω, f_Φ with photon

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Universal coupling constants f_ρ, f_ω, f_Φ are determining the lepton decay widths of vector mesons in a quadratic form, therefore in their numerical evaluation from experimental values of $\Gamma(V \rightarrow e^+e^-)$ one does not know their signs. It is demonstrated strong dependence of the signs of f_ρ, f_ω, f_Φ on the $\omega - \Phi$ mixing forms. However, by application of the $\omega - \Phi$ mixing directly to electromagnetic currents of ω and Φ vector mesons and by a comparison of obtained results with Kroll-Lee-Zumino electromagnetic current to be identified with a linear combination of renormalized ρ^0, ω and Φ fields, signs of all coupling constants f_ρ, f_ω, f_Φ are specified.

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