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Vector Meson - Proton Scattering Lengths from Omega to Upsilon

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Measurements of the total cross section for the production of vector mesons off the proton allow the determination, using a Vector-Meson Dominance model, of absolute values of the vector meson - proton scattering lengths. A comparative analysis of the recently determined scattering lengths for omega-p, phi-p, and J/psi-p using the A2, CLAS, and GlueX experimental data respectively are reported. Following these results and by using quasi-data from a theoretical approach, we predicted Upsilon-p scattering length. The role of the "young" vector-meson effect is evaluated. We propose to measure the total cross section for Upsilon production off the proton at the threshold with EIC and/or EicC.

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