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Towards more precise parameters of the $a_1(1260)$ resonance[1] PETER LICHARD, Silesian University in Opava and Czech Technical University in Prague, MARTIN VOJIK, Silesian University in Opava — We explore the experimental data on the three-pion decay of the τ lepton and on the electron-positron annihilation into four pions in an effort to improve the knowledge about the $a_1(1260)$ resonance and their interactions. Our models of those two processes are based on the same main ingredients. These include the running-mass propagators of the a_1 and ρ resonances and an effective two-component interaction Lagrangian among the a_1, ρ, and pion fields. The a_1 mass and width are obtained together with the Lagrangian mixing parameter from a common fit to several sets of data on both processes.

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