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D->4pi, D->KKpipi amplitude analyses and properties of a1(1260), pi(1300), a1(1640)

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The resonant substructure of the four-body decays D0⟶π+π−π+π− and D0⟶K+K−π+π− is studied using data collected by the CLEO experiment. An amplitude analysis is performed in order to disentangle the various intermediate state contributions. To limit the model complexity a data driven regularization procedure is applied. The broad resonances a1(1260)+, π(1300)+ and a1(1640)+ are studied in detail, including quasi-model-independent parametrizations of their lineshapes. The mass and width of the a1(1260)+ meson are determined to be m(a1(1260)+)=[1225±9(stat)±17(syst)±10(model)]MeV/c2 and Γ(a1(1260)+)=[430±24(stat)±25(syst)±18(model)]MeV. For further details, see arXiv:1703.08505 (http://inspirehep.net/record/1519168?ln=en).

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