



Contribution ID: 7

Type: **not specified**

## Dispersive analysis of the $\gamma\gamma\rightarrow DD$ data and the confirmation of the DD bound state

*Friday 28 October 2022 11:30 (30 minutes)*

In my talk, I will present our recent data-driven analysis of the  $\gamma\gamma\rightarrow D+D^-$  and  $\gamma\gamma\rightarrow D_0D_0$  reactions from threshold up to 4.0 GeV in the DD invariant mass. For the S-wave contribution, we adopt a partial-wave dispersive representation, which is solved using the N/D ansatz. The left-hand cuts are accounted for using the model-independent conformal expansion. The D-wave  $\chi_{c2}(3930)$  state is described as a Breit-Wigner resonance. The resulting fits are consistent with the data on the invariant mass distribution of the  $e^+e^-\rightarrow J/\psi DD$  process. Performing an analytic continuation to the complex s-plane, we find no evidence of a pole corresponding to the broad resonance X(3860) reported by the Belle Collaboration. Instead, we find a clear bound state below the DD threshold at 3695(4) MeV, confirming the previous phenomenological and lattice predictions.

**Author:** DANILKIN, Igor

**Presenter:** DANILKIN, Igor