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## Radiative decay of heavy hadron molecules in charm and strange sector

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A theoretical analysis of radiative decay of heavy hadron molecules has been carried out in charm and strange sector within the Lagrangian formalism. We have studied the dependence of radiative decay width on the mass of the constituting mesons and on the binding energies. Besides this, we have also included finite size effects in terms of size parameter  $\Lambda_H$  which gives appropriate physical description of the heavy hadron molecule. This analysis can shed light on their still unresolved structure. In this work, we have focused particularly on  $Y(3940)$  and  $Y(4140)$  states. We have predicted  $Y(3940)$  state as a molecular bound state of  $D^{*0}$  and  $\bar{D}^{*0}$  and  $Y(4140)$  as a loosely bound molecular state of  $D_s^*$  and  $\bar{D}_s^*$ . The narrow decay widths of these states are in good agreement with the available experimental data given by BELLE and BaBar experiments. The predictions for the radiative decays can serve further to distinguish between the different structure identification of these heavy hadron states. The detailed results will be presented at the time of conference.

### On behalf of collaboration:

NONE

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