

# Scalars 2015

Contribution ID : 13

## Searches for low-mass scalar particles with the BABAR detector

### Content :

We present results from the BaBar experiment on searches for low-mass new physics. This includes a search for a light CP-odd Higgs boson ( $A_0$ ) in  $\text{Upsilon}(1S) \rightarrow \gamma A_0$ ,  $A_0 \rightarrow c\bar{c}$  decays, providing limits on the product branching fraction  $\text{B}(\text{Upsilon}(1S) \rightarrow \gamma A_0) \times \text{B}(A_0 \rightarrow c\bar{c})$  at the level of  $7 \times 10^{-5} - 2 \times 10^{-3}$  for  $A_0$  masses between 4.0 GeV and 9.25 GeV; and a search for neutral, long-lived particles produced in  $e^+e^-$  collisions or neutral B meson decays obtaining limits on the product of the production cross-section, branching fraction, and reconstruction efficiency are set for each final state.

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