

## High Energy Physics - Experiment

# Measurement of the gamma gamma\* --> eta\_c transition form factor

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We study the reaction  $e^+e^- \rightarrow e^+e^- \eta_c$ ,  $\eta_c \rightarrow K_S K^+ \pi^+$  and obtain  $\eta_c$  mass and width values  $2982.2^{+0.4}_{-1.6}$  MeV/c<sup>2</sup> and  $31.7^{+1.2}_{-0.8}$  MeV, respectively. We find  $\Gamma(\eta_c \rightarrow \gamma \gamma) B(\eta_c \rightarrow K \text{ anti-}K \pi) = 0.374^{+0.009}_{-0.031}$  keV, and measure the gamma gamma\* --> eta\_c transition form factor in the momentum transfer range from 2 to 50 GeV<sup>2</sup>. The analysis is based on 469 fb<sup>-1</sup> of integrated luminosity collected at PEP-II with the BABAR detector at e+e- center-of-mass energies near 10.6 GeV.

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