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Cross-section measurements at Belle

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The differential cross section for the process $\gamma\gamma \to \eta\pi^0$ has been measured in the kinematic range 0.84 GeV $< W <$ 4.0 GeV, $|\cos\theta^*| < 0.8$, where W and θ^* are the energy and π^0 (or η) scattering angle, respectively, in the $\gamma - \gamma$ center-of-mass system. The results are based on a 223 fb^{-1} data sample collected with the Belle detector at the KEKB e^+e^- collider. Clear peaks due to the $a_0(980)$ and $a_2(1320)$ are visible. The differential cross sections are fitted in the energy region 0.9 GeV $< W <$ 1.46 GeV to obtain the parameters of the $a_0(980)$. The energy and angular dependences above 3.1 GeV are compared with those measured in the $\pi^0\ \pi^0$ channel. The measured cross section ratio is consistent with QCD predictions. The W^{-n} dependence of the integrated cross section has also been measured.

We also report a measurement of the exclusive cross section for $e^+e^- \to D^0D^{*-}\pi^+$ as a function of center-of-mass energy from the $D^0D^{*-}\pi^+$ threshold to 5.2 GeV with initial-state radiation. The analysis is based on a data sample collected with the Belle detector at the $\Upsilon(4S)$ resonance and nearby continuum with an integrated luminosity of 695 fb^{-1} at the KEKB asymmetric-energy e^+e^- collider.

The cross section s of the reactions $e^+e^- \to \phi\eta$, $\phi\eta'$, $\rho\eta$, $\rho\eta'$ have been measured using a data sample of 516 fb^{-1} collected with the Belle detector at the KEKB asymmetric-energy e^+e^- collider. The energy dependence of the cross sections is presented using Belle measurements together with those of CLEO and BaBar.

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