INTERNATIONAL CONFERENCE ON HIGH ENERGY PHYSICS
AMSTERDAM 2002

Abstract ID=ABS442
Electroweak physics
Beyond the Standard Model (experiment and theory)
Experiment: L3 Collaboration
Contact Person: Juan Alcaraz
Institute: CERN
Email: Juan.Alcaraz@cern.ch

Measurement of the $e^+e^- \to Z\gamma\gamma$ Cross Section and Study of Anomalous Quartic Gauge Couplings.

L3 Collaboration

Abstract

The cross section of the process $\mathrm{e^+e^-} \to \mathrm{Z}\gamma\gamma \to \mathrm{q\bar{q}}\gamma\gamma$ is measured with $215\,\mathrm{pb}^{-1}$ of data collected with the L3 detector during the final LEP run at centre-of-mass energies around 205 GeV and 207 GeV. No deviation from the Standard Model expectation is observed. The full data sample of $713\,\mathrm{pb}^{-1}$, collected above the Z resonance, is used to constrain the coefficients of anomalous quartic gauge boson couplings to:

$$-0.02\ \mathrm{GeV}^{-2} < a_0/\Lambda^2 < 0.03\ \mathrm{GeV}^{-2} \text{ and}$$
$$-0.07\ \mathrm{GeV}^{-2} < a_c/\Lambda^2 < 0.05\ \mathrm{GeV}^{-2},$$

at 95% confidence level.

Version 0
Date 2002-04-30 : 13:06:28'