Abstract
Measurement of the Charm Production in $\gamma\gamma$ Interactions at LEP

The inclusive production of $D^{*\pm}$ mesons in two-photon collisions is measured with the ALEPH detector at e^+e^- centre-of-mass energies from 183 GeV to 209 GeV. A total of 360 ± 27 $D^{*\pm}$ meson events are observed from an integrated luminosity of 699 pb $^{-1}$. Contributions from direct and single-resolved processes are separated using the ratio of the transverse momentum $p_t^{D^{*\pm}}$ of the $D^{*\pm}$ to the visible invariant mass W_{vis} of the event. Differential cross sections of $D^{*\pm}$ production as functions of $p_t^{D^{*\pm}}$ and the pseudorapidity $|\eta^{D^{*\pm}}|$ are measured in the range 2 GeV/c < $p_t^{D^{*\pm}}$ < 12 GeV/c and $|\eta^{D^{*\pm}}|$ < 1.5. They are compared to next-to-leading order (NLO) perturbative QCD calculations. The extrapolation of the integrated visible $D^{*\pm}$ cross section to the total charm cross section, based on the PYTHIA Monte Carlo program, yields $\sigma (e^+e^- \rightarrow e^+e^- c\bar{c}) < \sqrt{s} >= 197$ GeV $= 731 \pm 74_{stat} \pm 47_{syst} \pm 157_{extr}$ pb.