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Parallel sessions: 1,2,3,4
Plenary sessions: 1,2,3

Resonance Production in Multi–Photon Final States in Positron–Proton Scattering at HERA

H1 Collaboration

Measurements are made of the total cross section for the exclusive photoproduction of charge conjugation $C = \pm 1$ mesons at a γp center-of-mass energy $\langle W \rangle \approx 200$ GeV. The production cross section for $I^G J^{PC} = 0^- 1^{--}$ $\omega(782)$ is measured by means of its $\pi^0 \gamma$ decay. The result is compared with measurements at lower energy, and interpreted in terms of the diffractive, or otherwise, production mechanism. A search for exclusively produced C=+1 resonances is made. The exclusive production of the $I^G J^{PC} = 0^- 0^{-+}$ π^0, η and $\eta'(958)$ have been searched for using their two photon decay modes with the intention of elucidating any $C = -1$ component in diffractive exchange, that is any evidence for the "odderon", the $C = -1$ partner of the leading diffractive effective trajectory, the pomeron. Signals of the $I^G J^{PC} = 1^- 0^{++}$ $a_0(980)$ and $I^G J^{PC} = 1^- 2^{++}$ $a_2(1320)$ mesons are obtained in the $\eta \pi^0$ decay mode, and are tested for compatibility with exclusive production.