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Measurement of elastic ω photoproduction at HERA

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The reaction $\gamma p \to \omega p$ ($\omega \to \pi^0\gamma$ and $\pi^0 \to \gamma\gamma$) is studied at photon-proton centre-of-mass energies around 200 GeV using the H1 detector at HERA. Measurements are presented of the photon-proton cross section for elastic ω production and of the differential cross section $\mathrm{d}\sigma/\mathrm{d}|t|$. The t-dependence is found to follow an exponential distribution of the form $\mathrm{d}\sigma/\mathrm{d}|t| \propto \exp -b|t|$. The slope parameter b is determined and is compared with the measurements of other elastic meson production processes.