Resonance searches at HERA

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Abstract:

Inclusive production of $K_S^0 K_S^0$ in ep collisions at HERA was studied with the ZEUS detector. Significant production of the $J^{PC} = 2^{++}$ tensor mesons and of the 0^{++} glueball candidate $f_0(1710)$ was seen. Their masses and widths are compared with previous experiments.

The H1 Collaboration saw a peak at 3.1 GeV in the $D^* p$ spectrum and attributed it to a charm pentaquark. A similar search by ZEUS with higher statistics did not confirm the H1 claim. New H1 results with the full HERA statistics see no excess in this region.

Masses, widths and helicity parameters of the excited charm and charm-strange mesons were measured with the ZEUS detector. The rates of c quarks hadronising into these mesons were determined and a search for a radially excited charm meson was performed.