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## **Excitation of the Delta(1232) isobar in deuteron charge exchange on hydrogen at 1.6, 1.8 and 2.3 GeV**

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Deuteron charge exchange break-up  $dp \rightarrow \{pp\}n$ , where the final  $\{pp\}$  diproton system is at very low excitation energy and hence in the  $1S_0$  state, is a powerful tool to probe the spin-flip terms in the proton-neutron charge-exchange reaction. Recent measurements with the ANKE spectrometer at the COSY storage ring at 1.6, 1.8, and 2.3 GeV have extended this study into the pion-production regime in order to investigate the excitation of the Delta(1232) isobar in the  $dp \rightarrow \{pp\}\Delta^0$  reaction. Values of the differential cross section and two deuteron tensor analysing powers,  $A_{xx}$  and  $A_{yy}$ , have been extracted in terms of the diproton production angle or  $\Delta^0$  invariant mass. These data can be interpreted in terms of the spin-longitudinal or spin-transverse contributions to the elementary  $np \rightarrow p\Delta^0$  process. The results to be presented will also be compared to those obtained with the SPES-4 spectrometer at Saclay at 2 GeV, where only a single combination of  $A_{xx}$  and  $A_{yy}$  was measured.

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