

# PARITY NONCONSERVATION IN NEUTRON CAPTURE ON $^{113}\text{Cd}$

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Parity nonconservation was studied for 23  $p$ -wave resonances in  $^{113}\text{Cd}$  up to  $E_n = 500$  eV at the LANSCE pulsed neutron source using a longitudinally polarized neutron beam and the time-of-flight method. The helicity dependence of the total neutron capture cross section was measured with an enriched  $^{113}\text{Cd}$  target and with a target of natural cadmium. Parity violating effects were observed for several resonances in  $^{113}\text{Cd}$  and  $^{111}\text{Cd}$ . A root-mean-square value of the parity nonconserving matrix element  $M_{J=1} = 2.9_{-0.9}^{+1.3}$  meV was obtained for the spin  $J = 1$  levels in the compound nucleus  $^{114}\text{Cd}$ . This result from the  $3p$ -peak region of the neutron strength function is compared with the parity violation results for nuclei from the  $4p$ -peak region.

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