Abstract Submitted
for the HAW05 Meeting of
The American Physical Society

Chiral Symmetry Breaking in Pion Double Charge Exchange ROMAN KEZERASHVILI, City Tech, The City University of New York — We study the energy behavior of the forward pion double charge exchange reaction on atomic nuclei in the framework of meson exchange currents (MEC) mechanism. Different chiral symmetry breaking Lagrangians are used to describe pion–pion vertex and vertex corresponding to a seagull diagram. To investigate the energy dependence of meson exchange currents contribution we neglected pion distortion. Our analytical calculations show that matrix elements for a forward differential cross section do not depend on the energy of the incoming pion. However, the amplitudes of the MEC diagrams considered depend on the chiral symmetry breaking parameter. The comparison of the sequential and the meson exchange current mechanisms shows that both mechanisms have a comparable contribution to the differential cross section at zero degree at the high energy region.

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Date submitted: 25 May 2005 Electronic form version 1.4