VECTOR ANALYZING POWER OF $\vec{P}P \to \{PP\}_S\pi^0$ REACTION AT INTERMEDIATE ENERGIES

D. Tsirkov[a,b], **S. Dymov**[a,c], **and G. Macharashvili**[a,d]

[a] *Laboratory of Nuclear Problems, Joint Institute for Nuclear Research, 141980 Dubna, Russia*

[b] *Institut für Kernphysik, Forschungszentrum Jülich, 52425 Jülich, Germany*

[c] *Physikalisches Institut II, Universität Erlangen-Nürnberg, 91058 Erlangen, Germany*

[d] *High Energy Physics Institute, Tbilisi State University, 0186 Tbilisi, Georgia*

for the ANKE collaboration

The reaction $\vec{p}p \to \{pp\}_s\pi^0$, where $\{pp\}_s$ is a proton pair with an excitation energy of $E_{pp} < 3$ MeV, has been observed with the ANKE spectrometer at COSY-Jülich for polarized beam at energies of 353, 500, 550 and 700 MeV.

The data has been processed to obtain the vector analyzing power A_y of the reaction. The setup acceptance covers almost the whole angular range at 353 MeV and forward angles at higher beam energies, allowing to obtain the respective A_y angular dependencies. The differential cross section of the process is deduced as well, providing cross-check for earlier measurements at ANKE.

The results of the analysis at 353 MeV provide a test of the Chiral Perturbation Theory (ChPT). At higher energies the phenomenological model developed by Niskanen is tested, giving additional information about Δ-nucleon dynamics.

Notes