

Beam Request

For Lab. use

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| Exp. No.: 158.1 | Session No. 33 |
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Title of Experiment

**Measurement of the cross section and analyzing
power of the $p_{(pol)}p \rightarrow (pp)_s\pi^0$ reaction**

Collaborators: ANKE Collaboration

Spokesman for collaboration: Name: **A.Kulikov**

Address:

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No support from the LSF program of the EC is requested

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| Total number of particles and type of beam (p,d,polarization) polarized protons | Momentum range (MeV/c) 883, 1090, 1219, 1343, 1463, 1638 | Intensity or internal reaction rate (particles per second) | |
| | | minimum needed 3×10^9 | maximum useful $>10^{10}$ |
| Type of target ANKE hydrogen cluster target | Safety aspects (if any) | Earliest date of installation October 1, 2007 | Total beam time (weeks) 1 week (after MD week) |

Summary of experiment:

It has been proposed (COSY proposal #158) to measure the differential cross section and proton analyzing power of the $p_{(pol)}p \rightarrow (pp)_s\pi^0$ reaction for excitation energies of the final di-proton less than 3 MeV at several incident beam energies from 350 MeV up to 950 MeV. The proposed studies will allow to obtain valuable information testing Chiral Perturbation Theory and Δ -nucleon dynamics.

This proposal was approved by PAC #31. Within the present Beam Request, the collaboration asks for allocation of the **granted ONE week** beam time for the experiment. It should be scheduled after the **MD week** in order to perform the necessary beam development for the six requested energies of polarized proton beam.