

The Polarized Target at the CBELSA/TAPS Experiment

Tuesday, June 11, 2019 3:00 PM (30 minutes)

In 2017, the polarized target system from Mainz/Dubna and Bonn were combined for data taking in Bonn. After testing the combined system, the experiment with a polarized frozen-spin target and the upgraded Crystal Barrel detector started in winter 2017. First data with a transversal proton target were already taken. In the meantime, several developments to improve the figure of merit are ongoing. To get a high target polarization and long relaxation times, low temperatures are indispensable. For this, new cryogenic systems are under construction. In Bonn, as an optimizing tool for the construction of dilution refrigerators and to gain detailed information about the different incoming and outgoing fluid streams, several CFD-simulations were done and improvements of the model are ongoing. Other research to reach a higher polarization during the experiment is done for superconducting magnets and target materials. Both can be used to build a continuous polarizing 4π solid target. This talk will give an overview about the projects and results of this research.

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