

## Workshop on Polarized Sources Targets and Polarimetry 2022 (PSTP22)



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### The polarized deuteron target at COMPASS in 2022

*Friday, 30 September 2022 10:00 (25 minutes)*

The COMPASS experiment at CERN is using a transversely solid polarized deuteron target with a muon beam to measure the TMD PDFs in SIDIS in 2022.

The target system consists of a 50 mK dilution refrigerator, a 2.5 T solenoid magnet, three sets of 70 GHz microwave system. Solid  $^6\text{LiD}$  beads of the target material was contained in 3-target-cell of 30-60-30 cm long with a 3 cm diameter. The target material was produced for the first phase of COMPASS which started data taking in 2002. The longitudinal polarization of the target is obtained by the DNP method with Gunn diode synthesizers which are newly installed. We have been taking data since June until November. After polarizing for 2 days, the spin is oriented perpendicular to the beam direction by using a 0.6 T dipole magnet and the data is taken for 5 days out of one week.

I will present the results of the deuteron polarizations, the relaxation times during the data taking as well as performance of the new microwave synthesizers.

#### Category

Polarized Targets

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