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One-Hadron transverse spin asymmetries at COMPASS

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The quark content of the nucleon at twist-two level in the collinear case can be fully characterized by three independent distribution functions for each quark flavour: the unpolarized distribution function $f_1(x)$, the helicity distribution function $g_1(x)$ and the transverse spin distribution function $h_1(x)$, also called transversity. The measurements of single spin asymmetries in semi-inclusive deep inelastic scattering (SIDIS) on a transversely polarized target are an important part of the COMPASS physics program. By measuring azimuthal asymmetries in hadron production one can access both transversity - using the Collins fragmentation function - and the Sivers distribution function. The COMPASS collaboration has measured these asymmetries in the scattering of a 160 GeV/c polarized μ^+ beam off a transversely polarized 6LiD (deuteron) target in the years 2002-2004 and off a transversely polarized NH₃ (proton) target in 2007 and 2010. In this contribution we present the results from the 2010 data for the Collins and Sivers asymmetries.

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