

# *Seminar*

## **Department of Physics**

Sivers function in the  
Quasi-Classical Approximation

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### **Abstract**

We will argue that saturation physics provides a robust framework for understanding many of the spin-dependent observables in high-energy collisions of hadrons and nuclei. In this talk we will concentrate on the Sivers function. After an introduction to saturation physics, we will work with the quasi-classical implementation of the saturation effects known as the McLerran-Venugopalan model. Modeling the hadron as a large “nucleus” with non-zero orbital angular momentum (OAM), we find that its Sivers function receives two dominant contributions: one contribution is due to the OAM, while another one is due to the local Sivers function density in the nucleus. We show that the OAM channel allows for a particularly simple and intuitive interpretation of the celebrated sign flip between the Sivers functions in semi-inclusive deep inelastic scattering and in the Drell-Yan process.

**Wednesday, March 11, 2015, 4:00 pm**

**SERC, Room 408**

**Refreshments will be served at 3:45 pm**