

# CU Physics Department Colloquium

Monday, November 26, 2007 4:10 PM 428 Pupin Hall



**Professor Anatoly Spitkovsky, Princeton University**

## **Extreme magnetospheres: from pulsars to accretion disks**

Many astrophysical objects, including neutron stars and accretion disks, are commonly interpreted as strongly magnetized conducting bodies rotating in the presence of plasma. Our ability to model magnetospheres of such objects has been hampered by the difficulty of solving the self-consistent behavior of strongly magnetized relativistic plasmas. I will describe the recent progress in numerical modeling of magnetically-dominated plasmas and present applications to several sources of interest. First, I will present the numerical solution of the structure of pulsar magnetospheres, which has been an unsolved problem for close to 40 years. Then I will consider the magnetospheres of flaring magnetars and accretion disks, and discuss comparison to observations and future directions.



Hosted by Andrei Beloborodov

