

Space Science Seminar
WEDNESDAY, 2019 May 8
10:30 a.m.
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A New Paradigm of the Young Solar Wind

Dr. Craig DeForest / Southwest Research Institute

Host: Dr. Alphonse Sterling

Since the 1960s, solar-coronal physics and space physics have been divided by the instrumentation used to study essentially the same plasma. Solar wind studies have used primarily in-situ sampling, while coronal studies have used primarily remote imaging. As a result, each region of the solar system has become a separate scientific specialty with its own communities, jargon, and intuitions — even though the two fields are intimately connected.

Now, the two fields are colliding in the region of the poorly-understood young solar wind, just above the solar corona. Parker Solar Probe is an audacious mission to bring in-situ methods to coronal physics; while remote imaging of Thomson-scattered light is now beginning to reveal the large-scale anatomy of the young solar wind itself. I will discuss several recent imaging results on the structure and evolution of the young solar wind, and its origin in the outer corona. These results — tantalizing though they are, within the limits of current instrumentation — are bringing into focus a new understanding of the top of the corona and the beginnings of the solar wind, even as new in-situ data from Parker Solar Probe begin to arrive.

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