

Are Tiny Jets Driving the Solar Wind?

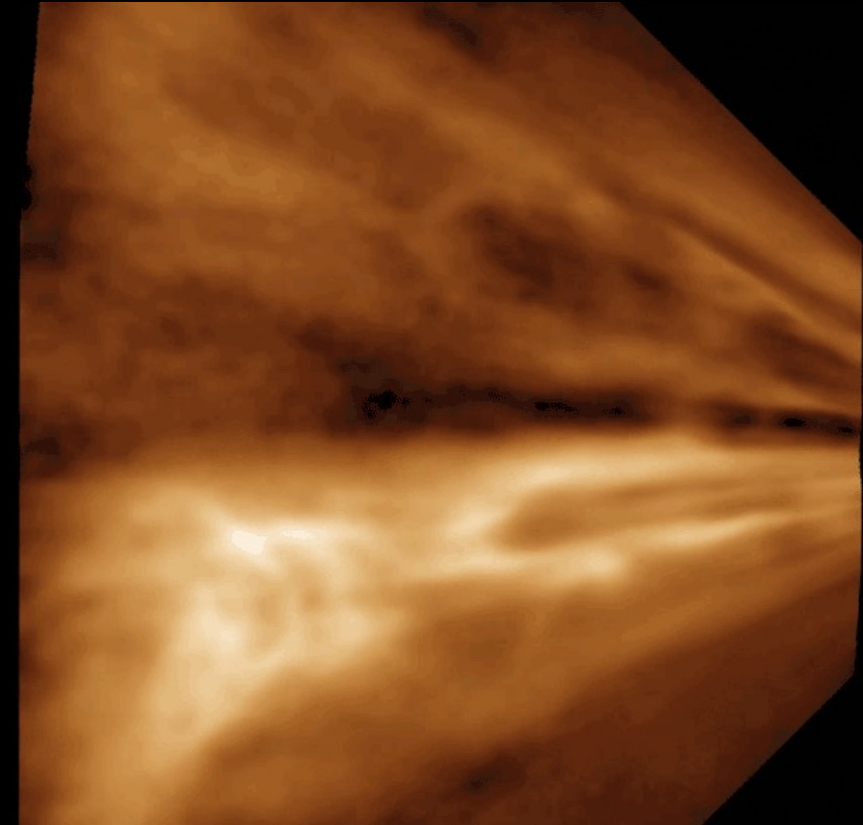
The solar wind is an ever-present flow of charged particles from the Sun that permeate the solar system. They play an important role in planetary atmospheres, give us aurora and often have a detrimental impact to our technological infrastructure.

Some of the many outstanding questions about the solar wind include, how is it generated and what determines its variability?

Using extreme-ultraviolet solar observations, this work shows evidence for omnipresent mini-jets at the base of the solar corona.

These jets (a.k.a. jetlets) are small-scale flows of plasma created by the violent release of magnetic energy that are ubiquitous regardless of the level of solar activity or phase of the 11-year solar cycle.

These new observations provide critical insight into our understanding of the solar wind as well as winds on other stars. This is crucial to characterizing our space environment to support our space exploration.



These observations of the solar wind were captured by a heliospheric imager aboard the STEREO spacecraft. These type of imagers are also on the Parker Solar Probe and Solar Orbiter missions. Jetlets may explain the small-scale structure we see in these observations.

N.-E. Raouafi, et al.: 2023: "Magnetic reconnection as the driver of the solar wind," *Astrophysical Journal*, 2023, 945, 28;
<https://iopscience.iop.org/article/10.3847/1538-4357/acaf6c>