

Small satellite-enabled new heliophysics science and prospects for improving our space weather capabilities

*Antti A Pulkkinen¹

1. NASA Goddard Space Flight Center

Small satellites are revolutionizing the way how science is being made in a variety of fields, including heliophysics. Small platforms allows deployment of large constellations that in turn allow disentanglement between spatial and temporal variations in the system. This is particularly important in heliophysics where many of targets of our interest display complex multi-scale behavior that cannot be characterized appropriately with single point measurements. The same applies to monitoring and predicting space weather where small platforms also provide a hope for improved continuity of observations at reduced cost.

In this presentation, I will discuss some of the key heliophysics science challenges that small satellites are needed to address. I will also discuss ideas for using small satellites in improved space weather monitoring and prediction. International collaboration is critical for future of space weather and small satellite-enabled fractionation opens an entirely new dimension for these collaborations. I will propose some options for these new types of collaborations.

Keywords: Small satellites, Space weather