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Citizen science and the exploration of solar data

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Citizen science provides a way to analyze large and complex data sets, complementary to contemporary tools such as machine learning. Indeed, while trained algorithms excel in the task they are trained for, humans can spot outliers and make serendipitous discoveries. With recent and new instruments, we are able to observe the Sun and the heliosphere at high cadence and high resolution, providing large amounts of data, revealing complexity in the observed features, and leading to the discovery of new features on small scales. We will present how citizen science, while still under-utilized in solar and heliospheric physics, is particularly adapted to explore, and analyze solar data sets. The "Solar Jet Hunter", a citizen science project launched one year ago to build a catalog of coronal jets, will be presented as an example, and other science cases for which citizen science is the most adequate tool will be highlighted. Finally, the opportunities raised by citizen science to create strong relationships between academia and society will be discussed.

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