Solar jet hunter: citizen science to build a catalogue of coronal jets

Musset, S.; Jol, P.L.F.; Sankar, R.; Lasko, K.; Glesener, L.; Zhang, Y.; ... ; Hurlburt, N.

Solar Jet Hunter: citizen science to build a catalogue of coronal jets

Sophie Musset[1] Paloma Jol[2] Ramanakumar Sankar[3] Kekoa Lasko[3] Lindsay Glesener[4] Yixian Zhang[3] Lucy Fortson[4] Navdeep Panesar[5] Gregory Fleishman[6] Mariana Jeunon[7] Neal Hurlburt[8]

[1]European Space Agency, [2]University of Leiden, [3]University of Minnesota, [4]University of Minnesota, Twin Cities, [5]LMSAL/BAERI, [6]NJIT, [7]Catholic University of America, [8]Lockheed Martin Corp.

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. We present here how we used citizen science to build a catalogue of coronal jets observed in the 304 A observations from the SDO/AIA instrument, with the project "Solar Jet Hunter" hosted on Zooniverse. In data from 2011 to 2016, volunteers found more 900 coronal jets: we will detail the processing of the volunteer's classifications and a preliminary analysis of the resulting catalogue. We will also discuss avenues to further develop the implication of volunteers in the scientific analysis of solar data, and to use this catalogue as a training set for machine learning.

Bulletin of the AAS • Vol. 55, Issue 7 (SPD54 Abstracts)　　　　Solar Jet Hunter: citizen science to build a catalogue of coronal jets

2