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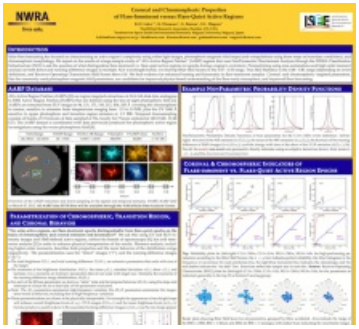
Poster
NWRA has released a machine-learning-ready dataset of E/UV timeseries images and parametrizations covering most of Solar Cycle 24. We present here the AIA Active-Region Patches ("AARPs"; Dissauer+2023), presently curated and hosted at the NASA Solar Data Analysis Center, that are constructed from the Solar Dynamics Observatory Atmospheric Imaging Assembly data in coordination with the SDO/Helioseismic and Magnetic Imager Active Region Patches ("HARPs"). Down-selection in the spatial domain is solely from full-disk to active-region size; the native spatial sampling is retained. Down-selection in the temporal domain is more severe (but could be augmented), yet allows for both short-lived dynamic features and longer-term evolutionary trends to be evaluated. All AARP files are calibrated for instrument degradation, tracked, coaligned, and ready for, e.g., Differential Emission Measure analysis (Emission Measure, Temperature, and Density maps are a forthcoming data product). Of note, all HARPs are included, without bias for active region size, activity level, location, or evolutionary stage; additionally, the bounding-boxes are extended beyond the HARP boxes in order to better capture the extended active-region coronal structures. A total of over 256k samples are thus provided. This AARP database has provided the first results of potential solar flare forecasting diagnostics from the chromosphere, transition region, and corona (Leka+2023), but is ready for additional scientific research relating to active region coronal heating, evolution, and energetic events. This work was funded primarily from NASA/GI Grant 80NSSC19K0285 with some final support from NASA/GI Grant 80NSSC21K0738 and NSF/AGS-ST Grant 2154653.



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