

REU: Week Two

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June 6, 2013

Monday I read the main program (`ch_track_surf.pro`) myself and then went over it with Chris. I read two papers on a NP model of the sun that included electric currents in the corona and calibration of the HMI/HDI tools on satellites. I downloaded Python for future use with plotting results. I also read notes from Dana Longcope on Magnetohydrodynamics written at an appropriate mathematical level for me.

The main project this week was downloading `aia`, `sta` and `stb` data at a 3 hour cadence and writing a program to turn it into a movie. The corona holes appear in white with the rest of the sun black and the large corona hole we made a video of last week is very visible in this form. The data is downloaded by `ch_data_grab` and combined into a single image by `ch_track_surf` and then I wrote code (`ch_animate`) that takes these images and puts them into a datacube with the help of `ch_map_restore`. Finally, `dat2mov` converts the datacube of frames into an mp4 file. Selected frames below:



