



it's about time

The Exploration of Solar Storms at NASA FDL

Kx25

Nicolle Eagan
18 May 2018

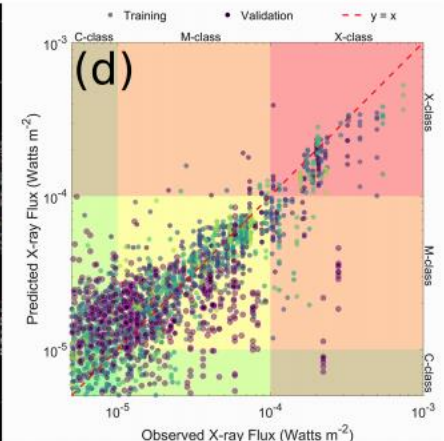
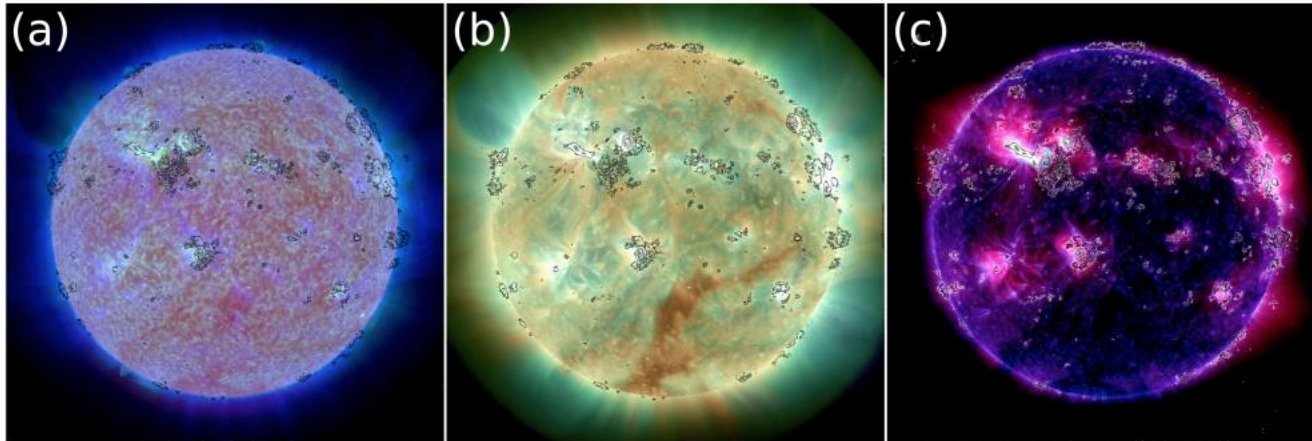


- Carl Sagan
- Search for Extraterrestrial Intelligence (SETI) Institute
- Frontier Development Lab (FDL)



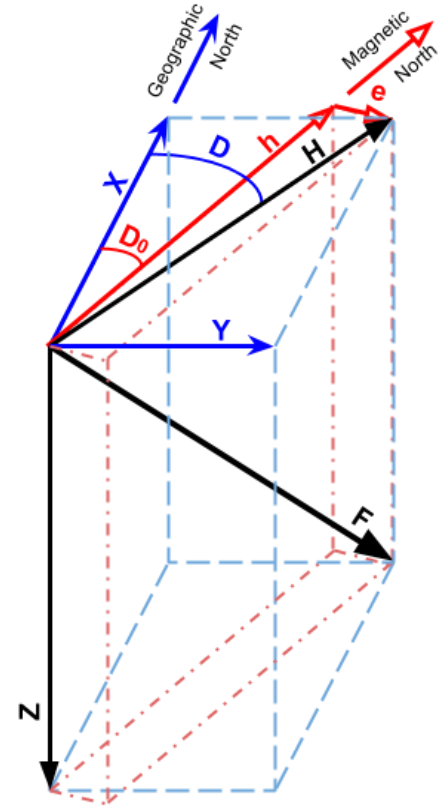
Solar Storm Prediction

- Solar Storms – Carrington Event
- FlareNet: Long Short-Term Memory (LSTM) recurrent neural network (RNN)
- Why kdb+?



The Data

- Geographic/Cartesian Channel Orientation (X, Y, Z, F)
- Reading per channel for every minute of every day



The results presented in this presentation rely on data collected at magnetic observatories operated by the U.S. Geological Survey (USGS, geomag.usgs.gov).

- Google Cloud – 8 Intel Skylake Cores, standard remote spinning disk
- q – 64-bit on-demand
- Anaconda (v. 3.5+)
- embedPy



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- SETI Institute
- Frontier Development Lab at NASA
- Fintan Quill
- Abby Gruen

Thank you!



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Github:

nmeagan11/kdb-for-space-analytics