Correlation Heatmaps of Earthquake Event vs. Solar Activity Variables

Zane van Campfort and Roman Avery

09/12/21

Variables used:

- magAFV - Magnitude of average field vector
- sB - sigma B (magnetic field)
- PT - Proton temperature
- PD - Proton density
- PFS - Plasma (flow) speed
- FP - Flow pressure
- EF - Electric field
- Kp - Planetary geomagnetic activity index
- DST - DST Index

Earthquake Magnitude vs. Solar Activity Variables

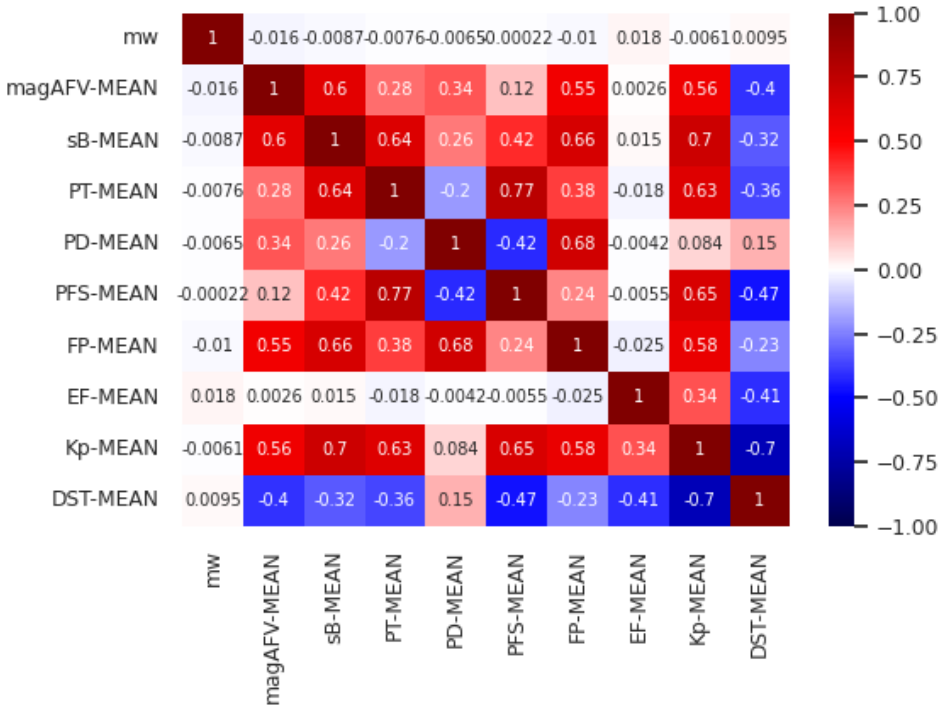

Figure 1: Earthquake Magnitude vs. SW Mean Values

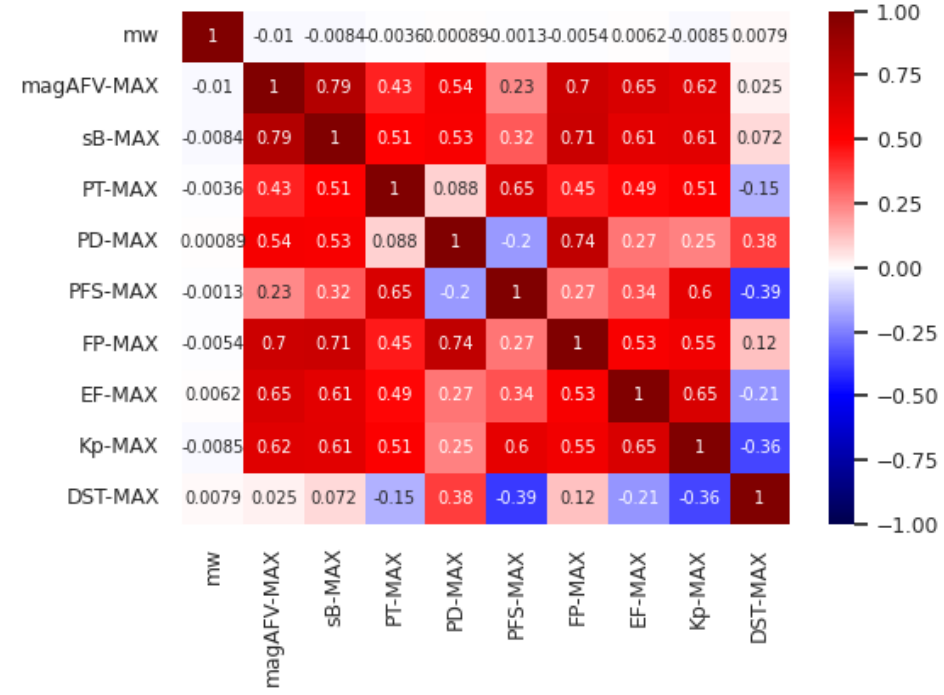

Figure 2: Earthquake Magnitude vs. SW Max Values

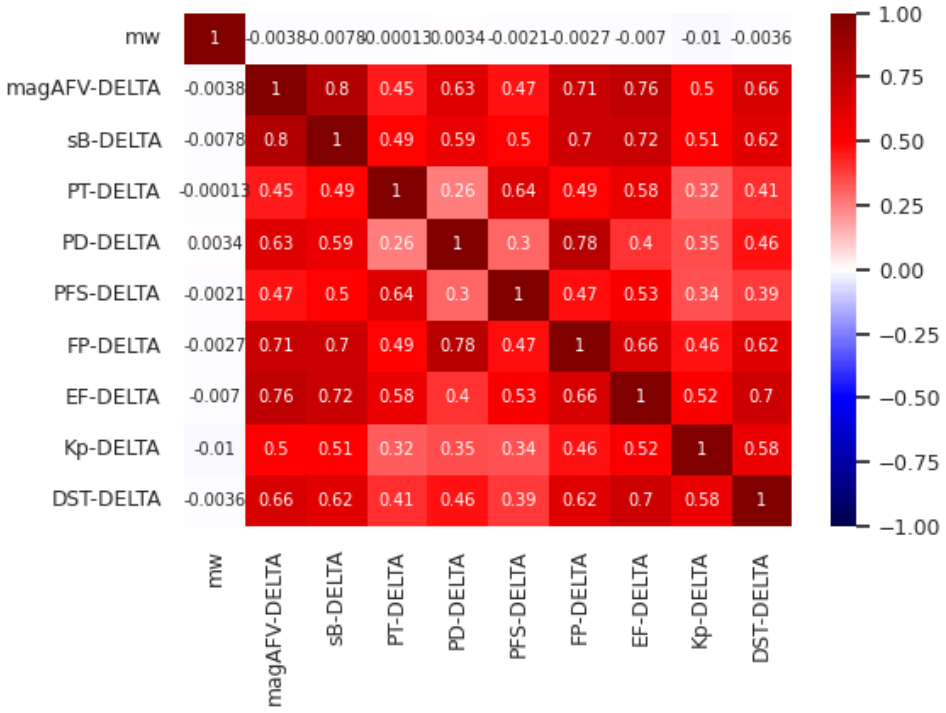

Figure 3: Earthquake Magnitude vs. SW Change in Values

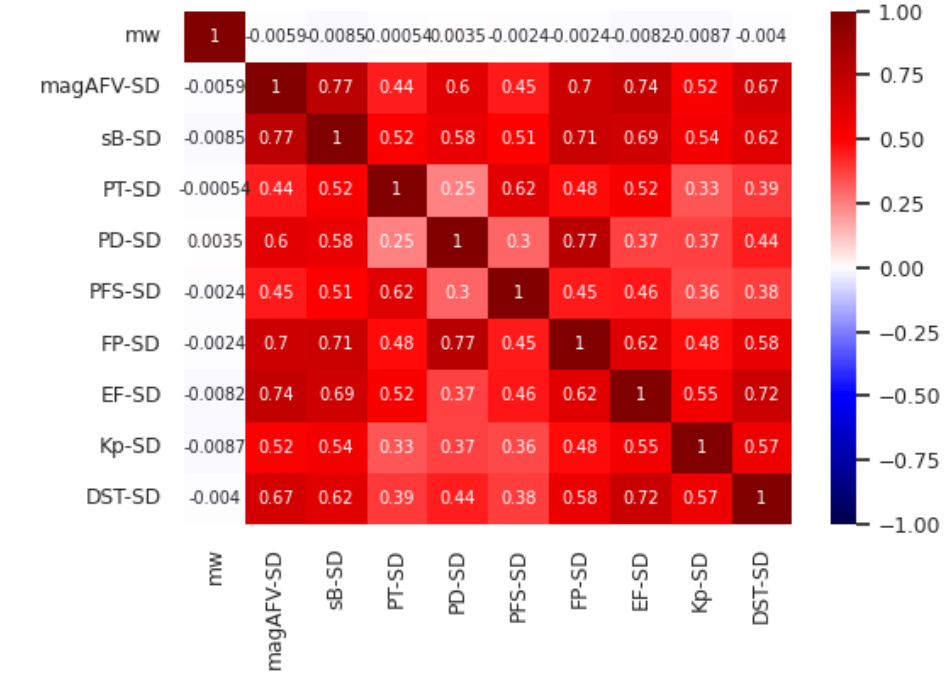

Figure 4: Earthquake Magnitude vs. SW Value Standard Distributions

Earthquake Depth vs. Solar Activity Variables

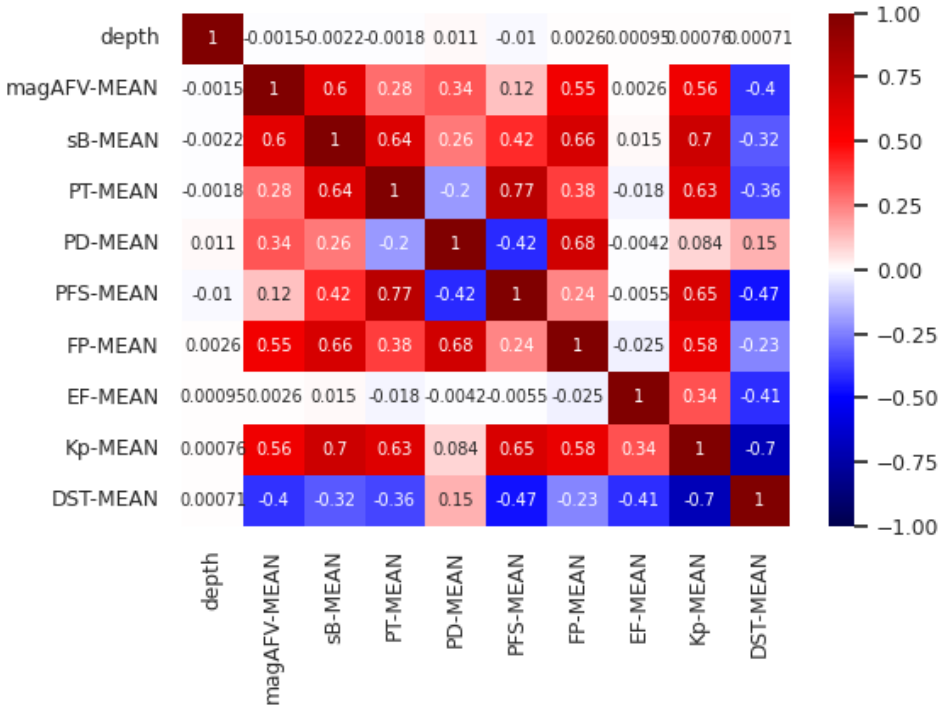

Figure 5: Earthquake Depth vs. SW Mean Values

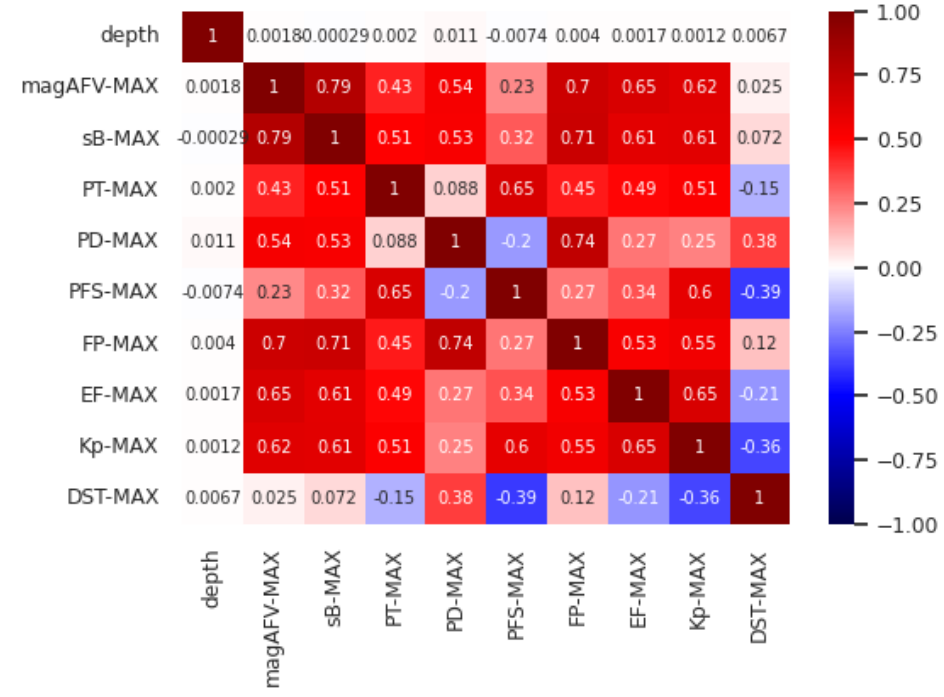

Figure 6: Earthquake Depth vs. SW Max Values

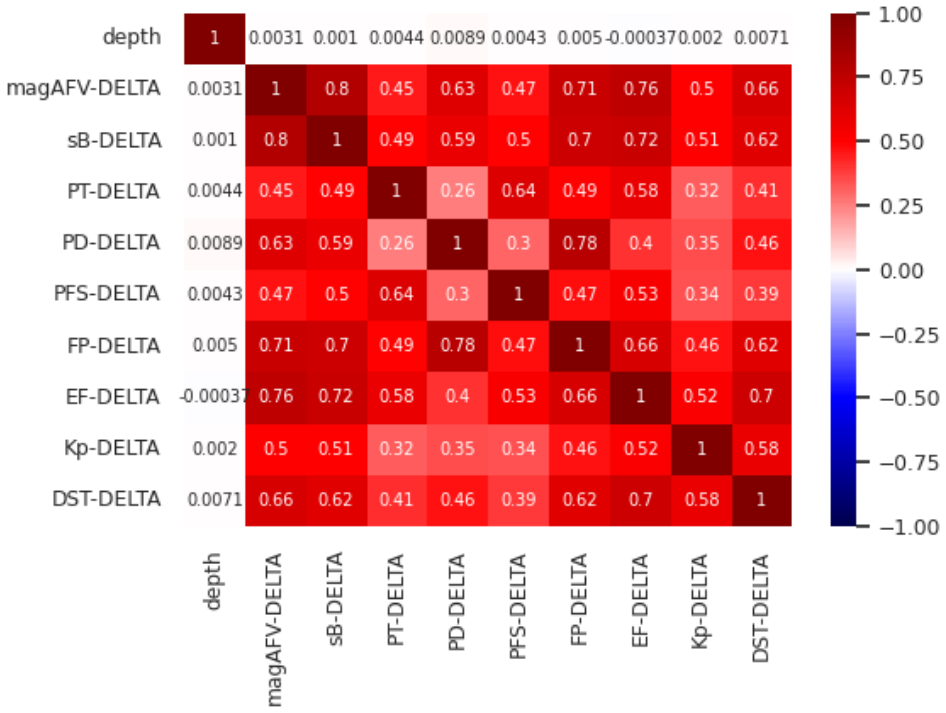

Figure 7: Earthquake Depth vs. SW Change in Values

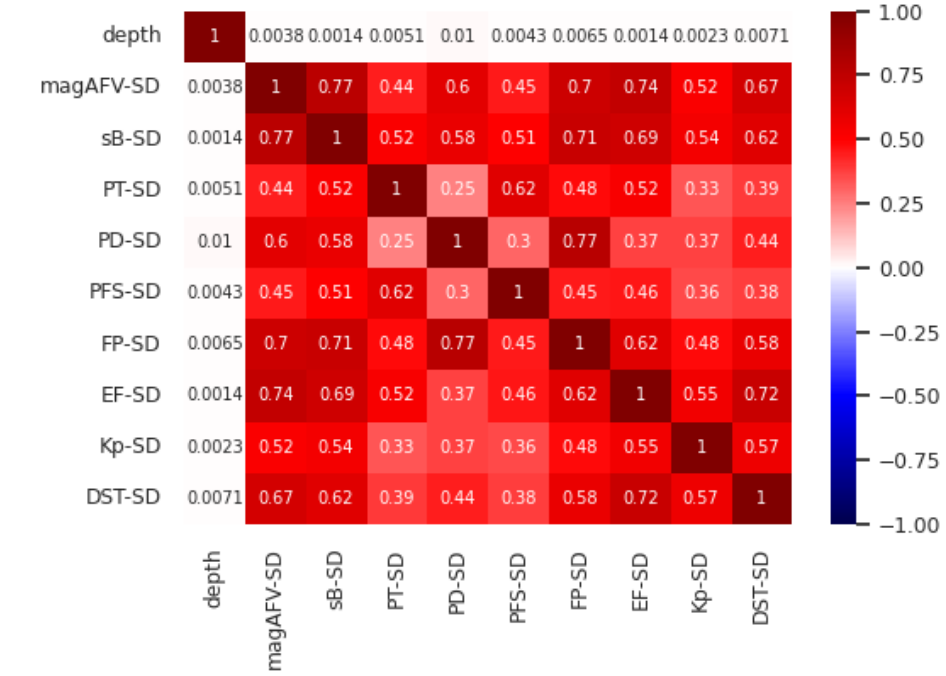

Figure 8: Earthquake Depth vs. SW Value Standard Distributions

Earthquake Latitude vs. Solar Activity Variables

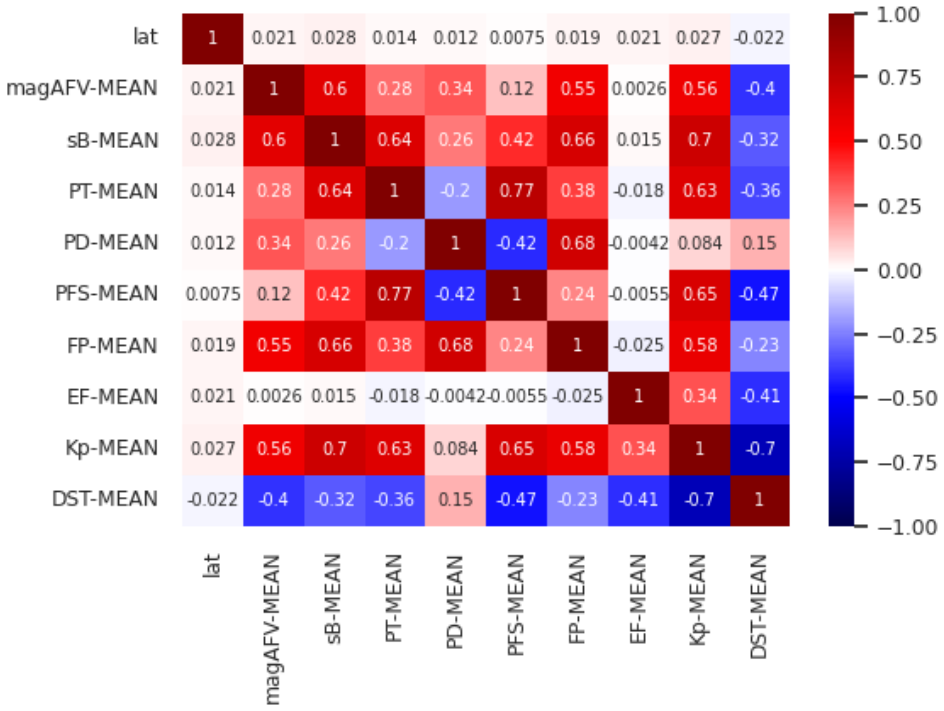

Figure 9: Earthquake Latitude vs. SW Mean Values

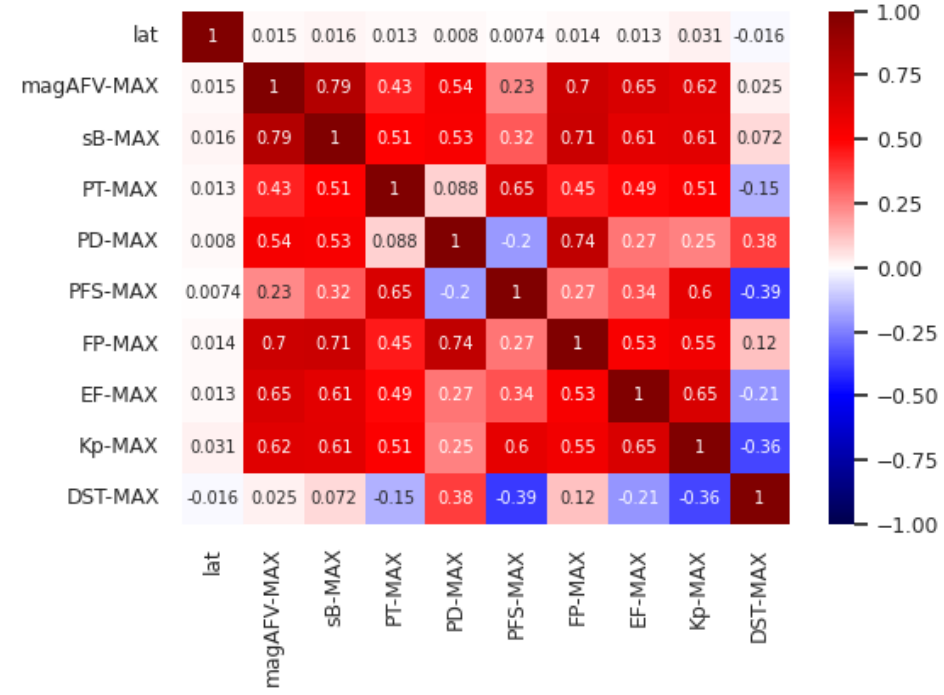

Figure 10: Earthquake Latitude vs. SW Max Values

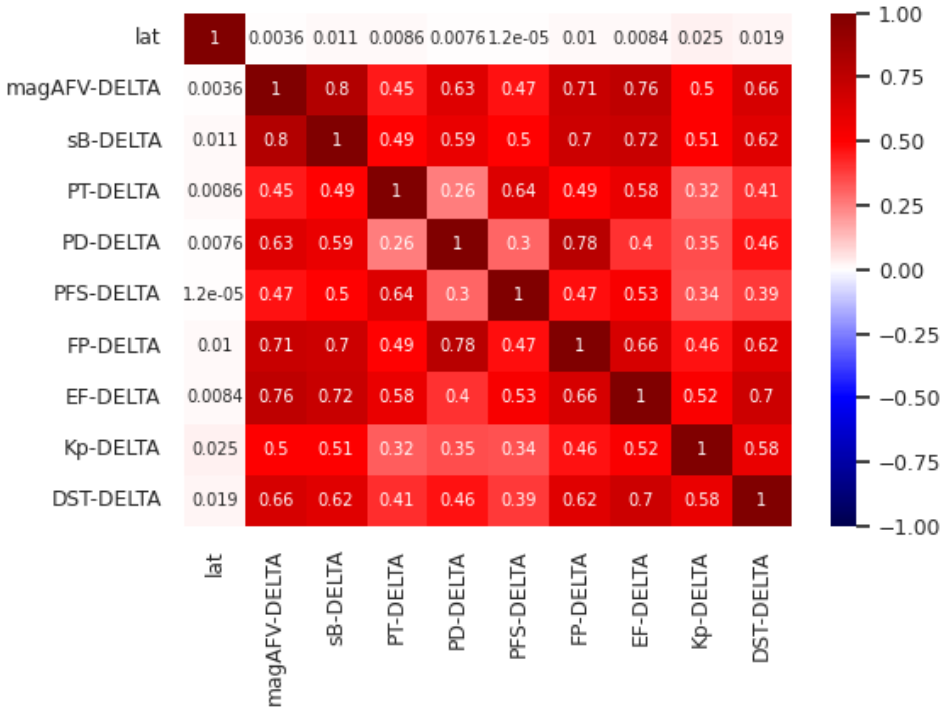

Figure 11: Earthquake Latitude vs. SW Change in Values

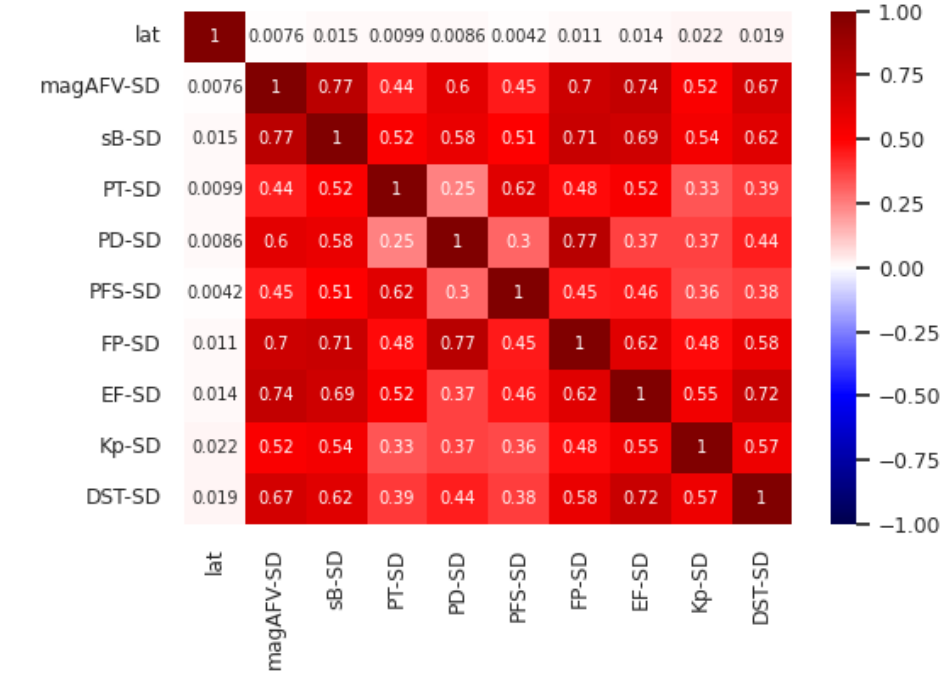

Figure 12: Earthquake Latitude vs. SW Value Standard Distributions

Earthquake Longitude vs. Solar Activity Variables

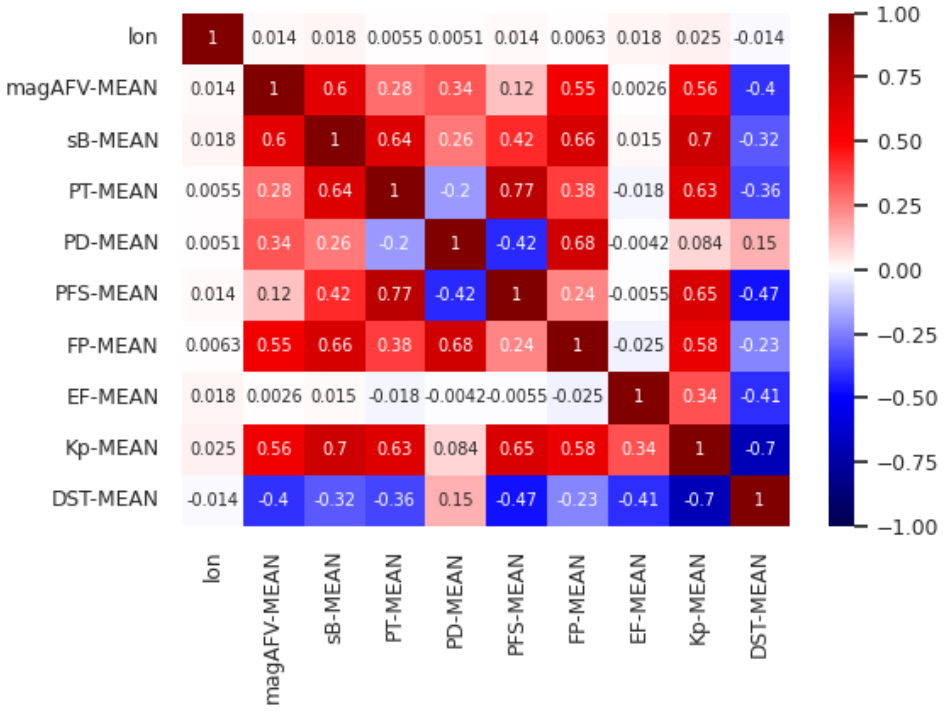

Figure 13: Earthquake Longitude vs. SW Mean Values

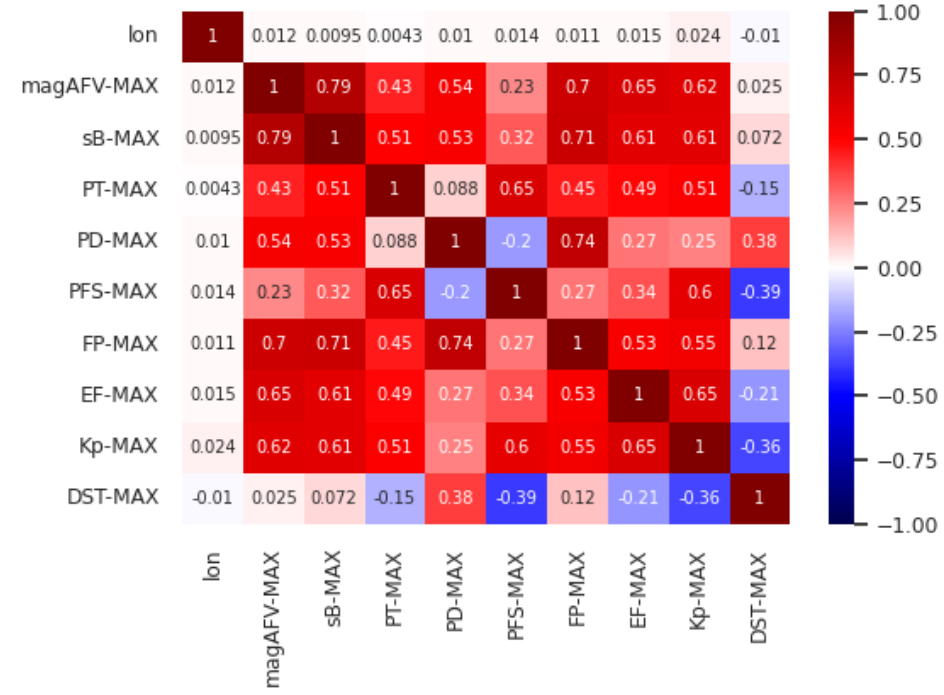

Figure 14: Earthquake Longitude vs. SW Max Values

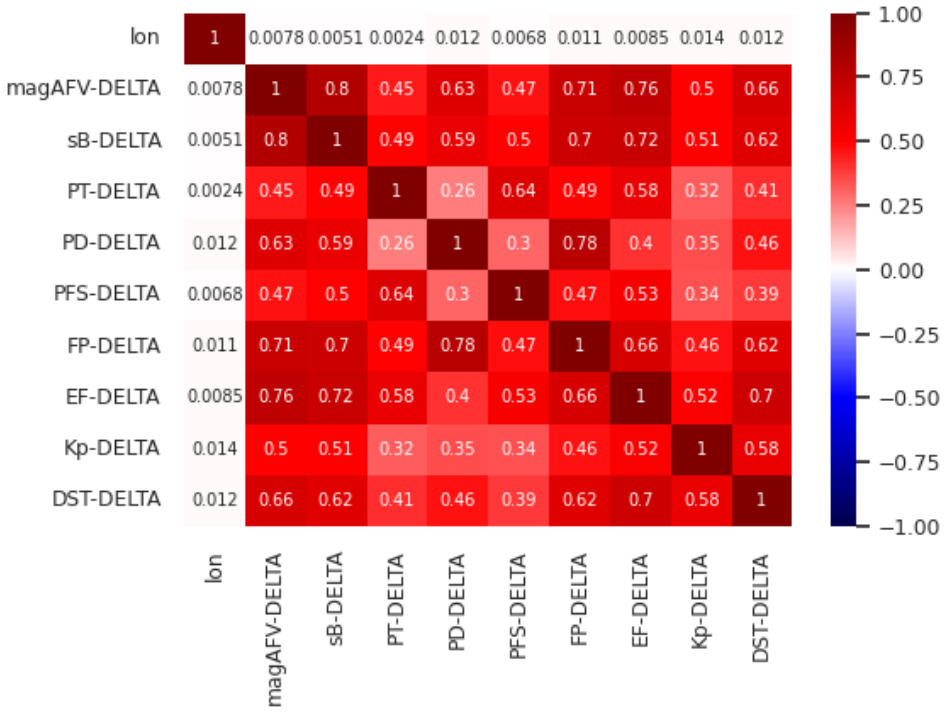

Figure 15: Earthquake Longitude vs. SW Change in Values

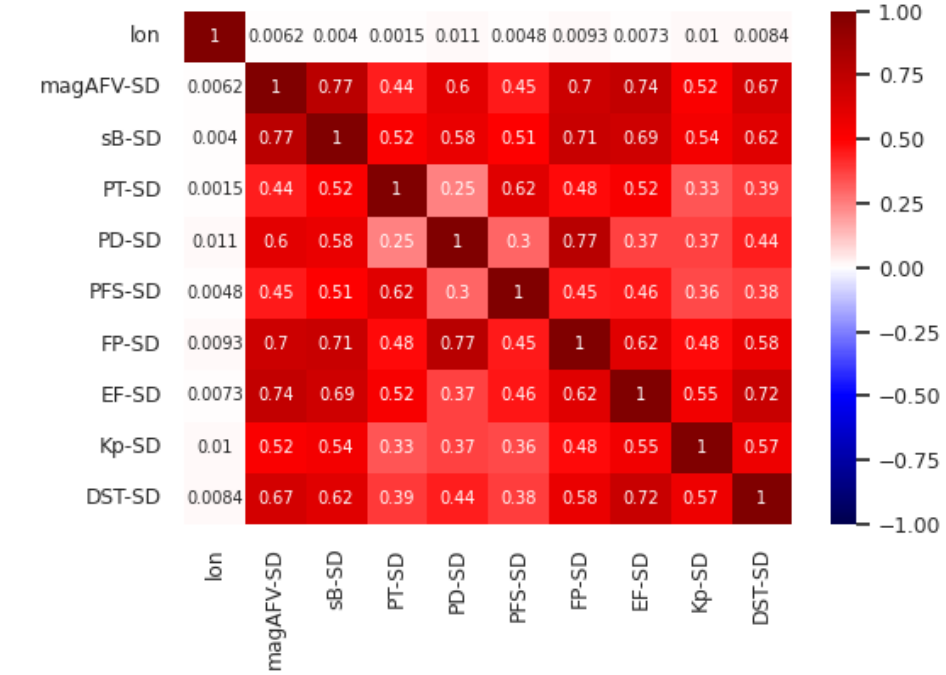

Figure 16: Earthquake Longitude vs. SW Value Standard Distributions