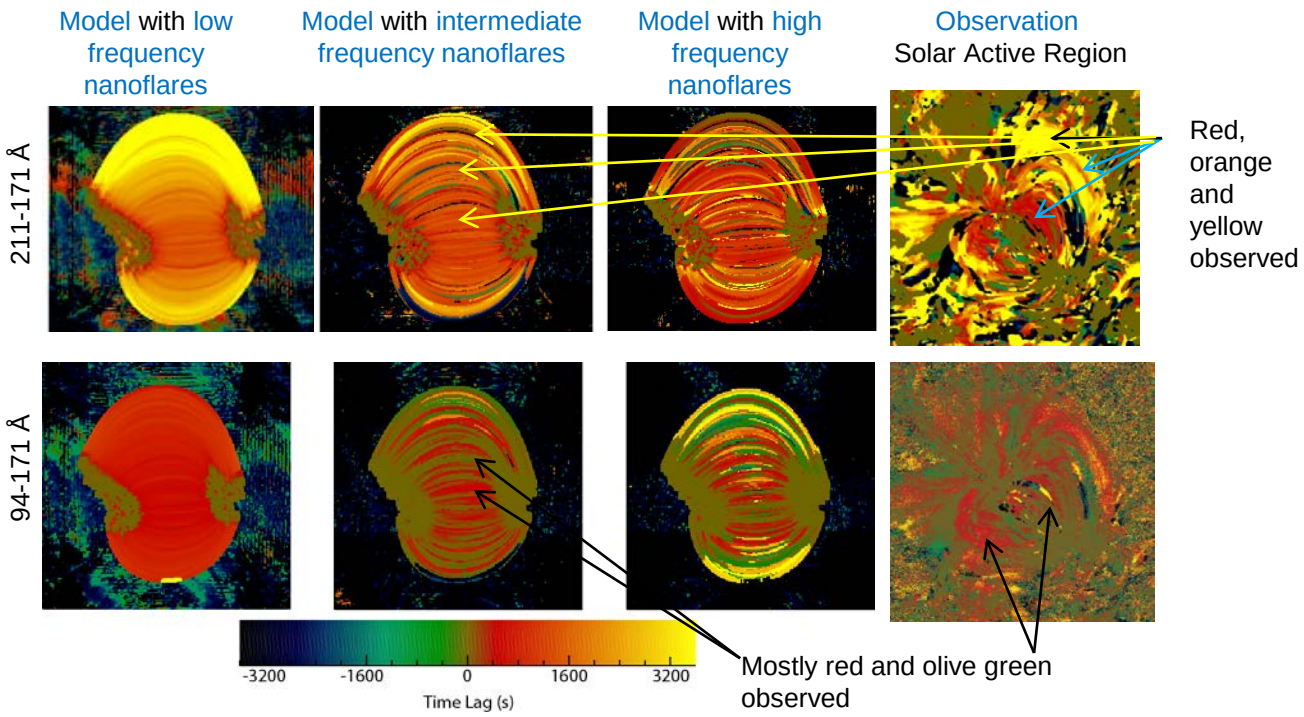
Why is the Solar Corona so Hot?

Observations of solar active regions show time lags between the emission at different temperatures. We compare these observations with physics models that also contain these lags – Active Region Models with this observable (time lags) is a first.

Time lags of emission between different SDO/AIA channels (temperatures)

Models with a an intermediate frequency of nanoflares (1/2000 secs) best agree with observations.



These intermediate frequency nanoflares can provide enough energy to heat the solar corona – Now theorists will have to tell us – Why?

Stephen Bradshaw (Rice University) & Nicholeen Viall (671), Patterns of Activity in a Global Model of a Solar Active Region, ApJ, 2016, 821, 63