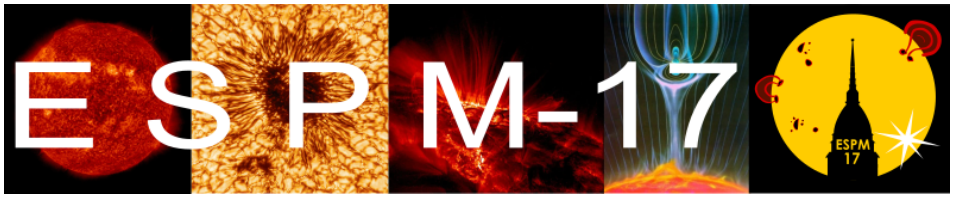

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CHROMOSPHERIC ORIGIN OF CORONAL HEATING: OBSERVABLE TIMESCALES?

Using a simplified kinetic plasma model, we show that a transition region and a million-Kelvin corona can form thanks to fast, short-lived temperature fluctuations in the chromosphere. The proposed mechanism works if such activity occurs on sub-second timescales, which however are unresolved in current observations.
We briefly outline the model and then discuss two scenarios in which chromospheric features vary on longer (and therefore possibly accessible to observations) timescales, being nonetheless sufficient to form the solar corona: one in which fluctuations are due to changes of field lines connectivity and another where slower chromospheric fluctuations lead to different temperatures for protons and electrons.

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