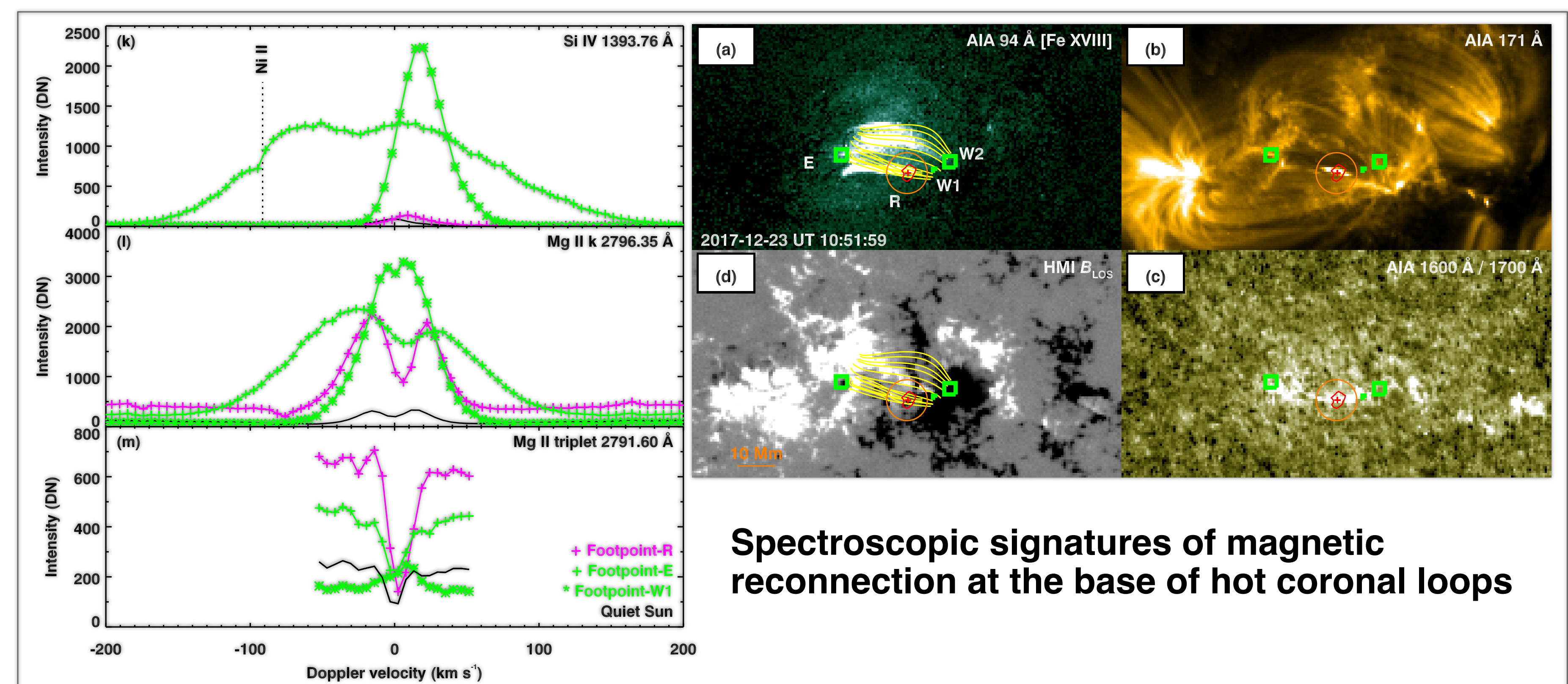
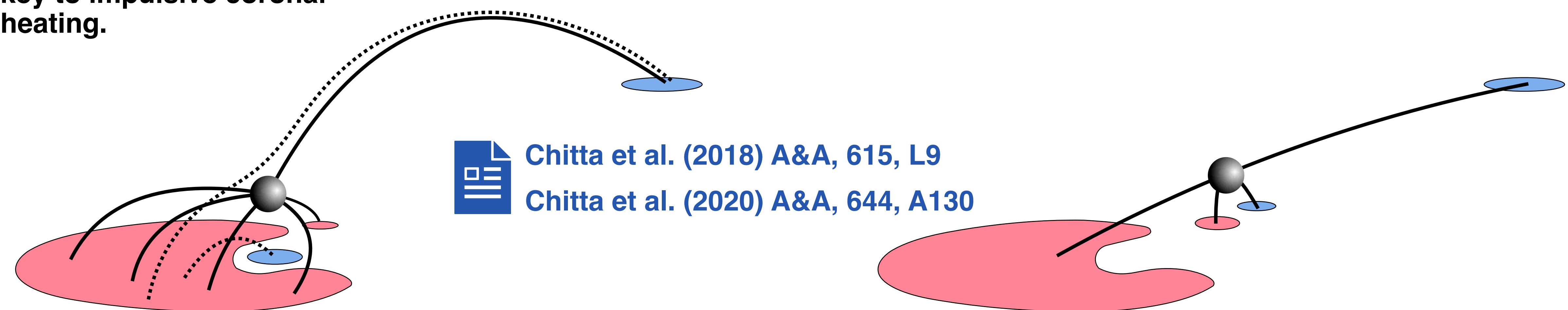


- We found that a majority of coronal loops hosting hot plasma have at least one footpoint rooted in regions of interacting mixed magnetic polarity at the solar surface.

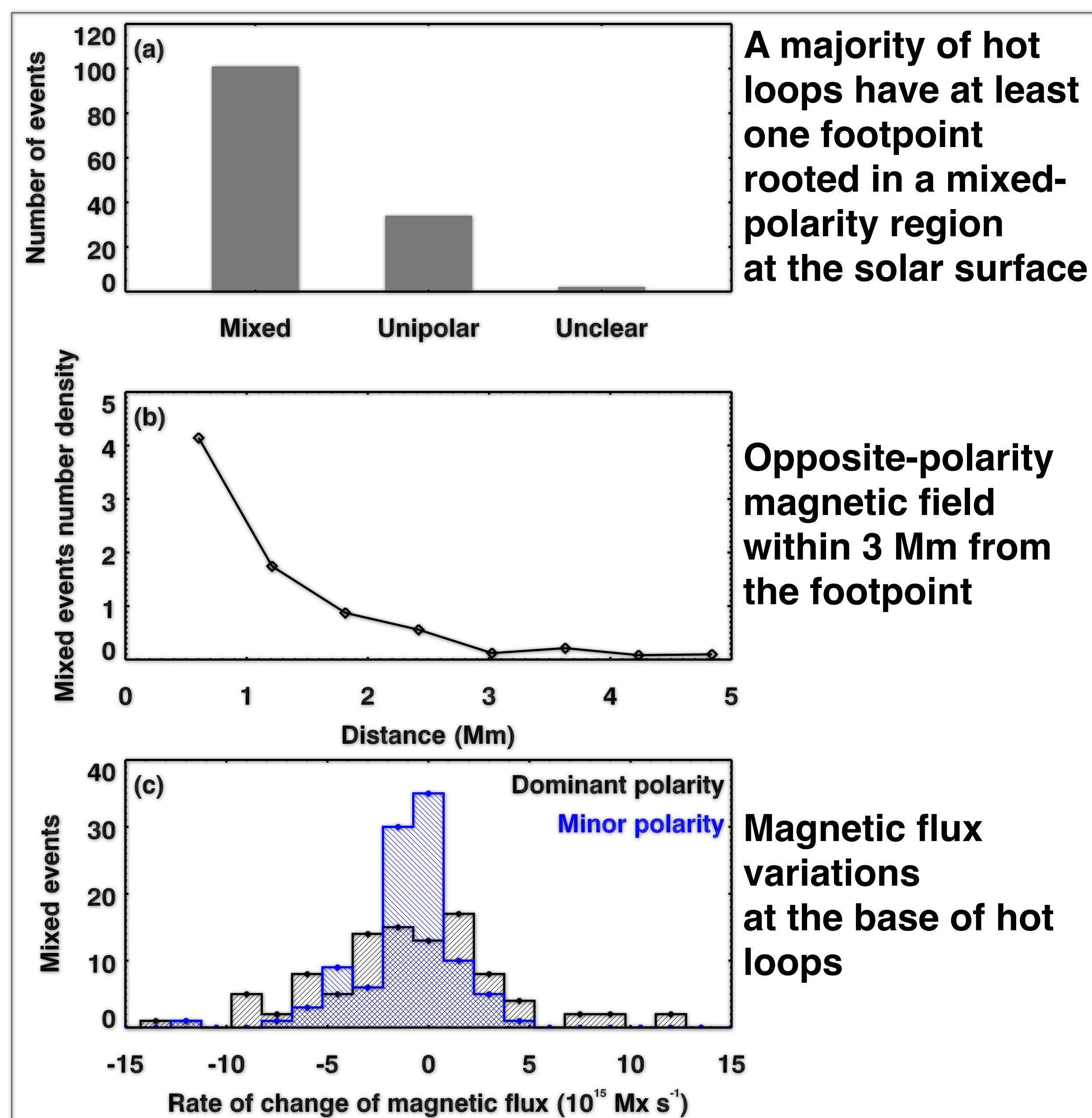
- Our observations suggests that interactions of magnetic patches of opposite polarity at the solar surface and the associated energy release during reconnection are key to impulsive coronal heating.



Spectroscopic signatures of magnetic reconnection at the base of hot coronal loops



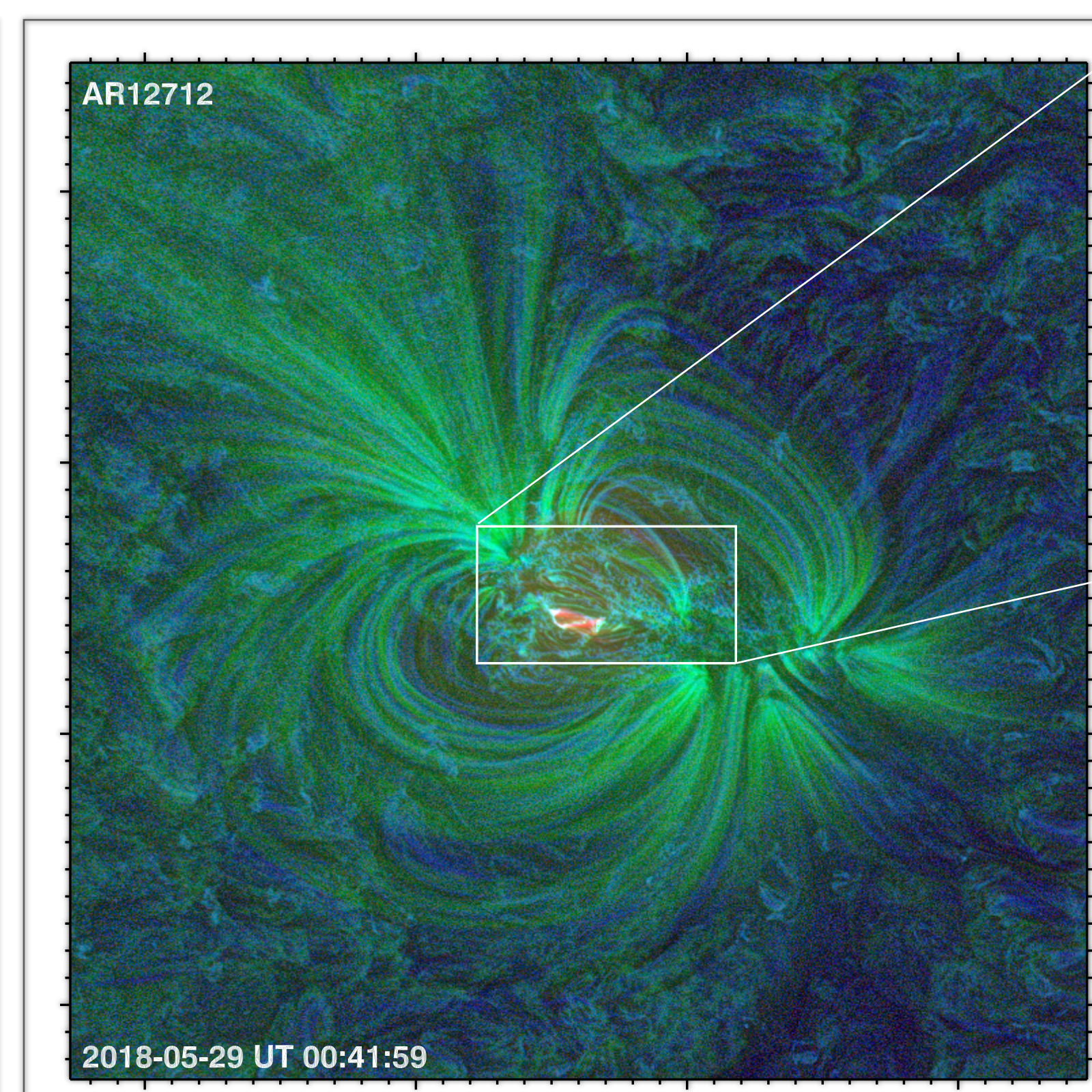
Chitta et al. (2018) A&A, 615, L9
Chitta et al. (2020) A&A, 644, A130



A majority of hot loops have at least one footpoint rooted in a mixed-polarity region at the solar surface

Opposite-polarity magnetic field within 3 Mm from the footpoint

Magnetic flux variations at the base of hot loops



Complex magnetic landscape at the footpoints of hot loops in active region cores

