SolFER Spring 2021 Meeting



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Imaging evidence for solar wind outflows originating from a CME footpoint

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We report on the Atmospheric Imaging Assembly observations of plasma outflows from a coronal dimming during the 2015 April 28 filament eruption. After the filament started to erupt, two flare ribbons formed, one of which developed a well-visible hook enclosing a core dimming region. Along multiple funnels located inside this dimming region, outward-directed motions of plasma started to be visible in the 171 and 193 filter channels of the instrument. Time-distance diagrams constructed along the funnels revealed a rib-like pattern indicating periodic outflows of plasma with velocities between 70 and 140 km/s, persisting for more than five hours. We briefly discuss the processes which can lead to the formation of outflows from dimming regions at such long timescales. The characteristics of the outflows were similar to those we observed in an ordinary coronal hole located in the vicinity of the dimming region. This indicates that the outflows were possibly signatures of solar wind flowing along the field lines extending from the dimming region which 'opened'during the eruption. To our knowledge, our observations present the first imaging evidence for plasma outflows from a dimming region.

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