
Two distinct peculiar "dimming channels" observed by SDO/AIA

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Abstract

In this work, we report two distinct peculiar "dimming channels" which observed by SDO/AIA in all the seven EUV wavelengths on July 12, 2012. The "dimming channel" here refers to the long narrow dimming region which is embraced by a flare ribbon during its first formation. Our results show that: (1) the intensity in the dimming channels dropped dramatically during the solar eruption and failed to acquire recruit in the following several hours; (2) the dimming channels seem to be located around the border of the solar active region AR 11520; (3) the flare ribbons which edge the dimming channels came forth earlier than the dimming region; (4) each dimming channel along with its the flare ribbon lace are likely to be located in the same magnetic polarity. Based on these results we discussed possible formation mechanism of the dimming channels.

Keywords: filament, dimming, channel, flare, solar eruption, prominence

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