



Evidence for Coronal Magnetic Reconnection in an X-class Solar Flare

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We report observations of coronal magnetic reconnection in the X2.8 flare on 2013 May 13, using data from SDO/AIA and RHESSI. At the beginning of this flare a magnetic flux rope erupts, which blends quite a wide temperature range plasmas and can be seen in all AIA EUV channels. Behind the eruption AIA 304Å shows structures that suddenly accelerate towards the reconnection region and disappear, while some diffusive plasmas move outward quickly from that region, which are only observed in AIA hot passbands. We identify them as the cool reconnection inflow and hot outflow. RHESSI observation gives large increases in flux and heated plasmas in spectra, as the further evidence of energy release during the reconnection process. These strongly confirm the magnetic reconnection that plays an important role in producing the flare.