Recent and Upcoming Studies of Solar Coronal Jets

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Solar jets occur throughout the solar atmosphere, including in coronal holes, quiet regions, and active regions. Observations at X-ray and EUV wavelengths show that frequently jets are made by eruptions of small-scale filaments, called “minifilaments.” Recent studies indicate that many of, or even the majority of, these jet-producing minifilament eruptions occur at locations where opposite-polarity photosphere magnetic fluxes merge and cancel. These observations support the idea that flux cancelation builds a magnetic flux rope along which cool minifilament material gathers, and that the flux rope subsequently erupts to form the jet through a sequence of magnetic reconnections. In this presentation we will update our recent investigations into jets, and discuss expectations and needs for jet studies with new Sun-observing instruments.

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