

A206a 「ひので」に関連する太陽の磁場活動について

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A new Japanese solar mission, Hinode, is revealing an amazingly new views of the Sun that even the lower solar atmosphere, chromosphere, is highly dynamic and is full of tiny jets and nanoflares. Here we report the discovery of chromospheric “anemone jets” outside of sunspots in active regions with the Solar Optical Telescope aboard Hinode. The typical length and width of the jets are $3'' - 7'' = 2000 - 5000$ km and $0.2'' - 0.4'' = 150 - 300$ km, respectively, and their velocity is $10 - 20$ km s⁻¹. Probably, these are the smallest solar jets observed so far. The striking feature of these jets is their morphology: their shape looks like an inverted Y-shape, similar to the shape of X-ray “anemone-jets” in the corona, suggesting that the reconnection similar to that in the corona is occurring in much smaller spatial scale in the chromosphere. This further suggests the new concept of ubiquitous reconnection in the solar atmosphere, as a key for solving the long-standing puzzle of the coronal heating mechanism.