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## **On magnetic origin and evolution of small-scale jets in the solar chromosphere**

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**Abstract.** High time and spatial resolution observations with Hinode have revealed that jet-like structures are ubiquitous in the solar chromospheres not only in the quiet Sun but also in active regions and even in sunspot penumbra. They are likely to play an important role in maintaining the energy balance of the local atmosphere and the mass balance of the corona. Those small-scale jets consist of highly dynamic multi-threads of as thin as a few tenths of arcsecond and shows lateral movement or oscillation during their lives. The fine structures and lateral motions indicate that the small-scale jets can be ejected by sorts of magnetic reconnection at their footpoints. Since Hinode observations indicate that the most small-scale jets emanate from seemingly uni-polar magnetic region and the relevant magnetic reconnection should take place in unresolved spatial scale contrary to the larger-scale jets in which bipolar magnetic structures are found at their footpoints. The origin and evolution of the small-scale jets are discussed using time series of data from Hinode high resolution Ca II H and H $\alpha$  images and magnetograms.