

Abstract Submitted  
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**Magnetic reconnection observation in the Earth's bow shock transition region**<sup>1</sup> SHAN WANG, University of Maryland, College Park, LI-JEN CHEN, NAOKI BESSHO, NASA Goddard Space Flight Center, MICHAEL HESSE, University of Bergen, Norway, LYNN WILSON, BARBARA GILES, THOMAS MOORE, NASA Goddard Space Flight Center, CHRISTOPHER RUSSELL, University of California, Los Angeles, ROY TORBERT, University of New Hampshire, JAMES BURCH, Southwest Research Institute — We investigate magnetic reconnection in the Earth's bow shock transition region using space observations by the Magnetospheric Multiscale (MMS) mission. A reconnecting current sheet with a thickness comparable to the ion inertial length is identified to exhibit electron outflow jets, Hall field and current patterns, and energy conversion, while no ion response is observed. In the same shock transition region, a reconnecting current sheet with an ion exhaust also exists, and the parallel heating of ions and electrons therein is similar to that in the standard reconnection exhaust. We will further discuss features for reconnection at the shock, how reconnecting current sheets are formed, and compare the contribution to energy conversion by reconnection with that by non-reconnecting current sheets and waves.

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