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Development of a dual \mathbf{v} and $\dot{\mathbf{B}}$ diagnostic for fast reconnection DOUGLASS ENDRIZZI, JAN EGEDAL, JOSEPH OLSON, CARY FOREST, JOHN WALLACE, UW Madison — The Terrestrial reconnection experiment (TRES) under construction at the Wisconsin Plasma Astrophysics Facility will study magnetic reconnection in a low- β , collisionless plasma. A probe to simultaneously measure the velocity and magnetic fields during a fast reconnection event is being constructed. An array of 3D $\dot{\mathbf{B}}$ probes and 2D Mach probes will measure at a ~ 2 cm spatial resolution and MHz frequencies. Using a digitally controlled drive, the probe will be able to sweep the full radial length (1.5 m) of the experiment and through an angle of ~ 1 radian, thus providing significant coverage of the anticipated event region. Measurements and results from the probe will be presented.

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