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Status of work on a Non-rotating Magnetic Field Harmonics Probe

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Being able to accurately measure magnetic field harmonics with a stationary probe can be advantageous. The typical mechanics required to rotate the probe and maintain alignment are obviated, as even could be the anti-cryostat for a superconducting magnet test, for example. This talk describes work towards one such device which uses a piezo sensor to detect torque caused by AC power applied in turn to vertices around the perimeter of a cylindrical coil. The voltage measured from the sensor is proportional to the force at a given vertex, and thus to the field, allowing determination of field harmonics from the ensemble. A proof of concept coil is described and a first look at data acquired is presented.

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