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Laboratory experiments on liquid metal spherical-Couette flows SANTIAGO ANDRES TRIANA, DANIEL ZIMMERMAN, DOUG KELLY, IREAP and Department of Physics, University of Maryland, DANIEL LATHROP, IPST, IREAP and Department of Physics, University of Maryland — We present experimental observations on liquid sodium flow in a spherical-Couette geometry. By applying an external magnetic field we are able to clearly identify at least two induced magnetic field modes with different poloidal patterns as well as different azimuthal wave numbers. The origin of many of these induced field oscillations appears to be related to inertial wave oscillations propagating in the spherical annulus. Possible implications for dynamo action and to the magneto-rotational instability will also be discussed.

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