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Yernat Assylbekov* (y.assylbekov@northeastern.edu) and **Ting Zhou**. *Inverse problems for the nonlinear time-harmonic Maxwell equations in Kerr-type media.*

We consider inverse boundary value problems of electromagnetism in a nonlinear Kerr medium, which is one of the most common nonlinearities appearing in physics and engineering. We show the unique determination of the electromagnetic material parameters and the nonlinear susceptibility parameters of the medium by making electromagnetic measurements on the boundary. (Received February 19, 2018)