Applications of the ArbiTER edge plasma eigenvalue code D.A. BAVER, J.R. MYRA, Lodestar Research Corporation, M.V. UMANSKY, Lawrence Livermore National Laboratory — ArbiTER is a flexible eigenvalue code designed for plasma physics applications. This code uses an equation and topology parser to determine how a particular set of linearized model equations is spatially discretized. The resulting matrix form is then solved using the SLEPc [1] eigensolver package. The equation and topology parsers permit a wide variety of capabilities, including variable numbers of dimensions, both finite difference and finite element methods, and irregular boundary conditions. Recent upgrades also permit parallel operation and the solution of source-driven problems. Two applications of this code will be presented, both as demonstrations of capability and as benchmark cases. One of these is the calculation of resistive ballooning modes with fully kinetic electrons. This will demonstrate the capacity for solving kinetic problems. The other is the use of extended spatial domains for ballooning stability analysis. This will demonstrate the utility of extra dimensions in calculations with fluid models. Work supported by the U.S. DOE grant DE-SC0006562.