Title: Three types of quasi-Trefftz functions for the 3D convected Helmholtz equation

Abstract: Trefftz methods are numerical methods for the approximation of solutions to boundary and/or initial value problems. They are Galerkin methods with particular test and trial functions, which solve locally the governing partial differential equation (PDE). This property is called the Trefftz property. Quasi-Trefftz methods were introduced to leverage the advantages of Trefftz methods for problems governed by variable coefficient PDEs, by relaxing the Trefftz property into a so-called quasi-Trefftz property: test and trial functions are not exact solutions but rather local approximate solutions to the governing PDE. In this properties of three families of quasi-Trefftz functions for 3D scalar PDEs: two based on generalizations on plane wave solutions, and one polynomial.