Marko Huhtanen, Jan von Pfaler: *The real linear eigenvalue problem in* $\mathbb{C}^n$; Helsinki University of Technology Institute of Mathematics Research Reports A463 (2003).

Abstract: *In this paper we study the real linear eigenvalue problem in* $\mathbb{C}^n$*. We present results concerning the location of the eigenvalues of a real linear operator together with structured problems for which we can find the spectrum numerically reliably. We consider ways to achieve savings in computational complexity. Various classes of real linear operators are introduced among which the structure of the spectrum can be regarded, at least partially, as understood. Continuation techniques are implemented for locating components and subsets of the spectrum once an eigenvalue is available.*

AMS subject classifications: 14Q05, 15A04, 65F15

Keywords: $\mathbb{R}$–linear operator in $\mathbb{C}^n$, spectrum, characteristic bivariate polynomial, real algebraic plane curve, path following techniques

Marko.Huhtanen@hut.fi, Jan.von.Pfaler@hut.fi

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Helsinki University of Technology
Department of Engineering Physics and Mathematics
Institute of Mathematics
P.O. Box 1100, 02015 HUT, Finland
email:math@hut.fi http://www.math.hut.fi/