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FAST LEJA POINTS*

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Abstract. Leja points are used in several areas of scientific computing, including polynomial approximation and eigenvalue computation. Their determination requires the maximization of a sequence of polynomials over a compact set in the complex plane. These computations can be quite time consuming when the number of Leja points to be determined is large. This paper introduces a new set of points, referred to as fast Leja points, that are simpler and faster to compute. An interactive example that illustrates the computation and distribution of fast Leja points is available at web site http://etna.mcs.kent.edu/vol.7.1998/pp124-140.html.

Key words. Leja points, polynomial interpolation, iterative methods, eigenvalue computation.

AMS subject classifications. 65D05, 65E05, 65F15, 65N25.

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