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MINIMAL DEGREE RATIONAL UNIMODULAR INTERPOLATION ON THE UNIT CIRCLE*

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Abstract. We consider an interpolation problem with n distinct nodes $z_1, \ldots, z_n$ and n interpolation values $w_1, \ldots, w_n$, all on the complex unit circle, and seek interpolants $b(z)$ of minimal degree in the class consisting of ratios of finite Blaschke products. The focus is on the so-called damaged cases where the interpolant of minimal degree is non-uniquely determined. This paper is a continuation of the work in Glader [Comput. Methods Funct. Theory, 6 (2006), pp. 481–492], which treated the uniquely solvable fragile and elastic cases.

Key words. rational interpolation, Blaschke product, Nevanlinna parametrization

AMS subject classifications. 30D50, 35E05

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