

ON THE SOLUTION OF CAUCHY SYSTEMS OF EQUATIONS *

D. CALVETTI † and L. REICHEL ‡

Dedicated to Gerhard Opfer on the occasion of his 60th birthday.

Abstract. The development of fast solution methods for linear systems of equations with a Cauchy matrix has recently received considerable attention. This note presents new solution methods based on a modification of an inversion formula described by Gastinel [8].

Key words. fast algorithm, linear system, Cauchy matrix, Hankel matrix, Toeplitz matrix.

AMS subject classification. 65F10.

^{*}Received February 27, 1996. Accepted for publications August 8, 1996. Communicated by A. Ruttan.

[†]Stevens Institute of Technology, Department of Mathematical Sciences, Hoboken, NJ 07030. Research supported in part by NSF grant DMS-9404692. (na.calvetti@na-net.ornl.gov).

[‡]Kent State University, Department of Mathematics and Computer Science, Kent, OH 44242. Research supported in part by NSF grant DMS-9404706. (reichel@mcs.kent.edu).

¹²⁵