PARA–ORTHOGONAL RATIONAL MATRIX–VALUED FUNCTIONS ON THE UNIT CIRCLE

BERND FRITZSCHE, BERND KIRSTEIN AND ANDREAS LASAROW

Abstract. In this paper, we continue previous investigations with the ultimate goal being a Szegő theory for orthogonal rational matrix functions. We implement here the concept of para-orthogonal functions on the unit circle in the context of rational matrix functions and present some fundamental properties of the para-orthogonal functions in question. We discuss, among other things, the relationship between these functions and orthogonal rational matrix functions as well as existence criteria and some para-orthogonal functions of particular interest.

Mathematics subject classification (2010): Primary 47A56, 42C05; Secondary 30E05.

Keywords and phrases: Para-orthogonal rational matrix functions, orthogonal rational matrix functions, reproducing kernels, nonnegative Hermitian matrix Borel measures on the unit circle.

REFERENCES

632
B. FRITZSCHE, B. KIRSTEIN AND A. LASAROW


