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Step by step solution of the matrix Carathéodory problem in the class $\mathcal{S}[a, b]$. (Russian. English summary) [Zbl 1324.42010](#)

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Summary: Decomposition of the resolvent matrix of Carathéodory problem in terms of Blaschke-Potapov factors is obtained. Each such factor is expressed via generalized Schur parameters. Explicit relations between Blaschke-Potapov factors and Schur parameters are given. Step by step process solution matrix Carathéodory problem in the class $\mathcal{S}[a, b]$ is given.

MSC:

[42A82](#) Positive definite functions in one variable harmonic analysis

[44A60](#) Moment problems

[47A57](#) Linear operator methods in interpolation, moment and extension problems

Keywords:

matrix Carathéodory problem; Blaschke-Potapov product; generalized Schur parameter; Shur process