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Review: A short introduction to de Branges-Rovnyak spaces

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Recommended Citation

Timotin, Dan (R-AOS)

A short introduction to de Branges–Rovnyak spaces. (English summary)


The author provides a short introduction to de Branges–Rovnyak spaces. This inviting survey is well written and will be an excellent introduction for the interested graduate student. Complete proofs are given for some of the later material, but most of the basic results are proposed as simple exercises for the reader to complete.

The topics covered are fairly standard, as they should be for such a survey. After some preliminaries, the author discusses reproducing kernels, contractive inclusion, ramifications of the extreme/non-extreme dichotomy for $H(b)$ spaces, and the model theory for contractions with defect $(1, 1)$. This last topic is developed in detail, with a careful proof being given. Matrix and operator-valued de Branges–Rovnyak spaces are not considered here, although references to more advanced sources point the reader in the right direction.


{For the collection containing this paper see MR3309345}

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