One component bounded function

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One-component inner functions were first introduced by B. Cohn in [**C**] in connection with Carleson measures for model spaces. They are associated to some well-understood model spaces: indeed it is possible to provide an useful geometric characterization of Carleson measures for the model spaces corresponding to one-component inner functions. Some equivalent characterizations of one-component inner functions have been provided by A. Aleksandrov [**A**], by A. Nicolau and A. Reijonen [**NR**] and by R. Bessonov [**B**].

In this presentation, I will talk about the one-component bounded function. They were first introduced by A. Baranov, E. Fricain and J. Mashreghi in [**BFM**] where the authors studied the Carleson measure for the de Branges-Rovnyak spaces. After the definition the one-component bounded function, I will provide some equivalent descriptions, highlighting the differences with the inner case.

The results are part of a joint work with Prof. A. Nicolau.

References

- [A] ALEKSANDROV, A.B. Embedding theorems for coinvariant subspaces of the shift operator. II, Zap. Nauchn. Sem. S.-Peterburg. Otdel. Mat. Inst. Steklov. 262 (1999).
- [B] BESSONOV, R.V. Duality theorems for coinvariant subspaces of *H*¹. *Adv. Math.* **271** (2015), 62–90.
- [BFM] BARANOV, A.; FRICAIN, E.; MASHREGHI. J. Weighted norm inequalities for de Branges–Rovnyak spaces and their applications. *Amer. J. Math.* **132-1** (2010), 125–155.
- [C] COHN, B. Carleson measures for functions orthogonal to invariant subspaces. Pacific J. Math. 103-2 (1982), 347–364.
- [NR] NICOLAU, A.; REIJONEN, A. A characterization of one-component inner functions. Bull. Lond. Math. Soc. 53-1 (2021), 42–52.