

## Sessão: Operator Algebras and Applications Dedicated to Professor Maria Amélia Bastos

### Operator theory algorithms related to Cauchy type singular integrals

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In our work we use the computer algebra system *Mathematica* to implement analytical operator theory algorithms. By implementing these algorithms on a computer, new tools are created making the results of lengthy and complex calculations available in a simple way to researchers of different areas.

The main goal of this talk is to present some of our new operator theory algorithms related to Cauchy type singular integrals, defined in the unit circle. Several nontrivial examples computed with the algorithms are presented.

The corresponding source code of the algorithms are available as a supplement to the online edition of the article [1].

This is a joint work with Jéssica Pires.

### References

- [1] CONCEIÇÃO, ANA; PIRES, JÉSSICA, *Symbolic Computation Applied to Cauchy Type Singular Integrals*, Math. Comput. Appl., 27(1), 3 (2022).