

THE ABSOLUTE FUNCTIONAL CALCULUS FOR SECTORIAL OPERATORS

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ABSTRACT

We introduce the absolute functional calculus for sectorial operators. This notion is stronger than the common holomorphic functional calculus. We are able to improve a key theorem related to the maximal regularity problem and hence demonstrate the power and usefulness of our new concept. In trying to characterize spaces where sectorial operators have absolute calculus, we find that certain real interpolation spaces play a central role. We are then extending various known results in this setting. The idea of unifying theorems about sectorial operators on real interpolation spaces permeates our work and opens paths for future research on this subject.