

# Complex interpolation of vector valued, weighted sequence spaces

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The complex interpolation of Banach spaces is a generalization and an abstraction of the methods which were used to prove the Riesz-Thorin Theorem by Marcel Riesz and his student G. Olaf Thorin (1939). The idea is to regard a space of functions which were defined on the complex strip  $S := \{z \in \mathbb{C} \mid 0 < \operatorname{Re} z < 1\}$ , holomorphic with respect to  $X_0 + X_1$  and continuous and bounded on  $\partial S$  whereby  $X_0$  and  $X_1$  are arbitrary Banach spaces. Finally, the complex interpolation space between  $X_0$  and  $X_1$  is a quotient space of this function space.

The goal of the talk is to present an overview of the theory of the complex interpolation method and to show as an application the complex interpolation of vector valued, weighted sequence spaces.