

B-operators and their properties

Zenon Jabłoński (Jagiellonian University, Kraków, Poland)

The talk will present a selection of results from a series of joint papers concerning operators given by upper-triangular 2-by-2 block matrices. These operators appear naturally in various problems in operator theory and were studied in connection with Brownian isometries and the time shift operator. We will focus on questions related to subnormality, Cauchy duals, and the use of the Taylor spectrum in analyzing structural and spectral properties of such operators. The aim is to provide a coherent overview of the main ideas and techniques developed across these works, with emphasis on their broader operator-theoretic context.

The results presented are based on joint work with Sameer Chavan, Il Bong Jung, and Jan Stochel.