

Unitary equivalence of bilateral weighted shifts with operator weights

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In the talk we are going to present a general characterization of unitary equivalence of bilateral weighted shifts with operator weights. We will show how to simplify this characterization under additional assumption that the weights are doubly commuting. We will deduce existing results on unitary equivalence of bilateral shifts (e.g. from J. Kořmider, *On unitary equivalence of bilateral operator valued weighted shifts*) from our results. In the second part of the presentation, we will investigate the bilateral weighted shifts with positive weights. It turns out that the unitary equivalence of shifts with positive and commuting weights on C^2 can always be given by a unitary operator with at most two non-zero diagonals; some examples in case of higher dimensional spaces will be provided. The talk is based on our own research.