Bijections of weighted lattice paths using Riordan array decompositions

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This talk concerns paths counted by Riordan arrays arising from the decomposition of certain Hankel matrices and bijective relationships between them. We consider certain Hankel matrices, $H$ under two decompositions, $H = L_M D L_M^T$ with $L_M$ a Riordan array of generating functions that count weighted Motzkin paths and a $H = L_L B D L_L^T$ decomposition, with $L_L$ a Riordan array with generating functions that count weighted Lukasiewicz paths. A bijection is introduced between these paths.

References