Resonance in orbits of plane partitions

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Abstract

We introduce a new concept of resonance on discrete dynamical systems. Our main result is an equivariant bijection between plane partitions in a box under rowmotion and increasing tableaux under K-promotion, using a generalization of the equivariance of promotion and rowmotion [J. Striker–N. Williams '12] to higher dimensional lattices. This theorem implies new results for K-promotion and new proofs of previous results on plane partitions.

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