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AUTOMORPHISMS OF ROOT SYSTEMS

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Abstract of Report Talk: Given a set of vectors there is a set of geometric automorphisms that preserve its geometric symmetries. There is also a set of combinatorial automorphisms that preserve the linear independence relations of the subsets of the set of vectors. Since geometric automorphisms also preserve linear independence they are included in the combinatorial automorphisms. The question we are pursuing is whether there are automorphisms that are combinatorial but not geometric, and if there are what those automorphisms are. We're using various 4 (and higher) dimensional root systems as our set of vectors. [GA10164621]

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