

Mathematics > Group Theory

On rigidity of abstract root systems of Coxeter systems

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We introduce and study a combinatorially defined notion of root basis of a (real) root system of a possibly infinite Coxeter group. Known results on conjugacy up to sign of root bases of certain irreducible finite rank real root systems are extended to abstract root bases, to a larger class of real root systems, and, with a short list of (genuine) exceptions, to infinite rank irreducible Coxeter systems.

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