

Denominator identities for finite-dimensional Lie superalgebras and Howe duality for compact dual pairs

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Abstract. We provide formulas for the denominator and superdenominator of a basic classical type Lie superalgebra for any set of positive roots. We establish a connection between certain sets of positive roots and the theory of reductive dual pairs of real Lie groups, and, as an application of these formulas, we recover the Theta correspondence for compact dual pairs. Along the way we give an explicit description of the real forms of basic classical type Lie superalgebras.

Keywords and phrases: Lie superalgebra, denominator identity, arc diagram, Howe duality

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