

# Character formulae for infinite dimensional irreducible unitary representations of Lie superalgebras

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**Abstract** — The oscillator representations of the general linear and orthosymplectic Lie superalgebras are unitary representations on Fock spaces of bosonic and fermionic quantum oscillators. Their tensor powers reduce to direct sums of infinite dimensional irreducible unitary representations of highest weight type. We shall determine the multiplicities of all the irreducible sub-representations of the tensor powers of the oscillator representations, and derive explicit formulae for the characters of all the irreducible sub-representations. This is achieved by exploring Howe dualities between Lie superalgebras and classical Lie groups. This is joint work with S-J Cheng and N Lam.

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