

On the Radon transform and the Dirac delta distribution in superspace

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In this talk, we use the fundamental solution of the super Dirac operator to obtain a plane wave decomposition for the delta distribution in superspace, provided that the superdimension is not odd and negative. This decomposition allows for explicit inversion formulas for the super Radon transform in these cases. Moreover, we prove a more general Radon inversion formula valid for all possible integer values of the superdimension. The proof of this result comes along with the study of fractional powers of the super Laplacian, their fundamental solutions, and the plane wave decompositions of super Riesz kernels.

This submission is for a contributed session