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On osp(p+1,q+1|2r)-equivariant quantizations

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We investigate the concept of equivariant quantization over the superspace $R^{p+q|2r}$, with respect to the orthosymplectic algebra osp(p+1,q+1|2r). Our methods and results vary upon the superdimension p+q-2r. When the superdimension is nonzero, we manage to obtain a result which is similar to the classical theorem of Duval, Lecomte and Ovsienko: we prove the existence and uniqueness of the equivariant quantization except in some resonant situations. To do so, we have to adapt their methods to take into account the fact that the Casimir operator of the orthosymplectic algebra on supersymmetric tensors is not always diagonalizable, when the superdimension is negative and even. When the superdimension is zero, the situation is always resonant, but we can show the existence of a one-parameter family of equivariant quantizations for symbols of degree at most two.

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