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Weightings for Lie Groupoids and Lie Algebroids

Weightings, or quasi-homogeneous structures, are a concept introduced by Melrose and later by Loizides and Meinrenken as a way to generalize the notion of order of vanishing. Loizides and Meinrenken show that, given a weighting, one can define a 'weighted normal bundle' and a 'weighted deformation space' in a way that generalizes the standard normal bundle and standard deformation to the normal cone. In this talk, we will discuss the appropriate notions of weightings in the case of Lie algebroids and Lie groupoids so as to ensure that a number of desirable properties hold.