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### **Quantification d'Orbites Coadjointes et Theorie des Contractions**

P. Cotton et A. H. Dooley ["Contraction of an Adapted Functional Calculus, Journal of Lie Theory 7 (1997) 147–164] have shown by considering the example of the semi-simple Lie group  $G = SL(2, \mathbb{R})$  and of its Cartan motion group, the semi-direct product  $G' = \mathbb{R}^2 \times SO(2)$ , how to apply ideas coming from the theory of contractions to the Weyl transform on coadjoint orbits of Lie groups. Our aim is to obtain analogous results in the case of the contraction of the group  $G = SO_0(n+1, 1)$  to the generalized Poincaré group  $G' = \mathbb{R}^{n+1} \times SO(n, 1)$ . Weyl transforms on the coadjoint orbits associated to the principal series of  $G = SO_0(n+1, 1)$  are constructed as well as on the integral coadjoint orbits of the group  $G' = \mathbb{R}^{n+1} \times SO(n, 1)$  admitting  $SO(n)$  as small group and it is shown how the notion of contraction allows to relate these two constructions. Since the Weyl transforms are associated to the orbits, an infinitesimal version of classical results of the theory of contractions is obtained.