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Quantization of a Poisson Structure on Products of Principal Affine Spaces

The irreducible representations of a complex semisimple Lie group G are all encoded in its principal affine space G/N , and the decomposition of tensors products of irreps of G is intimately linked to the geometry of the diagonal action of G on several copies of G/N . This classical theory has a natural Poisson version. In this talk, we show that the standard multiplicative Poisson structure π_{st} on G induces a Poisson bracket on $(G/N)^m$ which is graded and for which the natural diagonal action of G is Poisson. Its deformation quantization is a graded $U_h(\mathfrak{g})$ -module algebra which is locally factored in the sense of Etingof and Kazhdan.