

# Deformation quantisation of Noncommutative Quantum Mechanics

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In this talk, we will show how the Lie group  $G_{NC}^{\alpha,\beta,\gamma}$ , of which the kinematical symmetry group GNC of noncommutative quantum mechanics (NCQM) is a special case due to fixed nonzero  $\alpha, \beta, \gamma$ , is three-parameter deformation quantized using the method suggested by Ballesteros and Musso in "Quantum Algebras as Quantizations of Dual Poisson-Lie Groups" [J. Phys. A: Math. Theor., 46 (2013), 195203]. A certain family of QUE algebras, corresponding to  $G_{NC}^{\alpha,\beta,\gamma}$  with two of the deformation parameters approaching zero, is found to be in agreement with the existing results of the literature on quantum Heisenberg group. Finally, we dualize the underlying QUE algebra to obtain an expression for the underlying star-product between smooth functions on  $G_{NC}^{\alpha,\beta,\gamma}$ .