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Review text:

Among various available approaches to deformations of Heisenberg algebra the authors start from a q-deformed commutator between the creation and annihilation operator [cf. their Eq.(6)]. They deduce (firstly) the standard canonical commutation relations [between the dynamical variables X and P – typically, Eq. (10) or (15)] and (secondly) their non-Hermitian realizations which they (thirdly) Hermitize using the Dyson-mapping technique of Ref. [13b].

After some review text the main technical message comes with the turn of attention to the manifestly non-Hermitian toy-model Hamiltonian of Ref. [16] where one must apply still another, tilded version $\tilde{\eta}$ of the Dyson map η. Luckily, the two operators $\tilde{\eta}$ and η commute. Hence, in a climax of their text the authors are able to compute the minimal uncertainty and the minimal length pertaining to the model.

A comment on priorities deserves to be added. While the paper under review (let us call it paper II) has been made publicly available on July 30th, 2009 (via arXiv), another submission (let us call it paper I, now published: T.K. Jana and P. Roy, Non-Hermitian Quantum Mechanics with Minimal Length Uncertainty, SIGMA, Vol. 5 (2009), 083, 7 pages) on similar subject already resided safely in my own Guest-editor's (plus in three pairs of the referees') hands. Still, being submitted as early as on June 30th, and being send for a minor revision on July 21st, paper I has only been made publicly available, via arXiv, on August 12th. For this reason the authors of paper II felt annoyed by not being cited (this is proved by their Comment in SIGMA, Vol. 5 (2009), 089, 2 pages) while the authors of paper I felt equally annoyed for not being given the space for their Reply (found too delayed by the Office of SIGMA – its unpublished version is, fortunately, available via web: see arXiv:0910.5601).

Last but not least, who also felt annoyed was the present reviewer because nobody cited his own, closely related paper "Fundamental length in quantum theories with PT-symmetric Hamiltonians" [Phys. Rev. D 80, 045022 (2009), submitted on April 16th]. Fortunately for all of us (and in a sharp contrast to the words "... no motivation is given for why one would want to consider non-hermitian Hamiltonians - this is my main criticism" by one of anonymous referees of paper I) the idea proved productive. One of its very nice recent further developments has been described by A. Fring, L. Gouba and F. G. Scholtz in paper "Strings from dynamical noncommutative space-time" (arXiv:1003.3025).