Request to physicists: Would you be willing to provide some informal feedback on my new approach to QM?

Ajit R. Jadhav, Ph.D.

email: aj175tp@yahoo.co.in

Copyright © Ajit R. Jadhav. All rights reserved.

Personal blog: https://AjitJadhav.wordpress.com
iMechanica: https://www.imechanica.org/user/1150

This document begun on: Sunday 2021 September 19 10:27:54 IST
This document version (LaTeX compilation): Monday 2021 September 20 15:45:54 IST

I have developed a new approach to the non-relativistic QM.

1 Development thus far

The development thus far includes:

1. a new *ontology* for QM

2. a new description for the detailed *non-relativistic dynamics* of quantum mechanical particles:

   (a) correspondence of the new description with the postulates of the standard QM can be given

3. a new proposal for solving the *Measurement Problem*, which relies, *inter alia*, on:

   (a) a new kind of a *nonlinearity* (which arises very naturally in the new approach)

   (b) a fresh look at certain under-appreciated features of *actual* measurements in *actual experiments*

   (c) ideas involving *multi-scaling* (but only at a conceptual level, due to hardware limitations!)

4. a new *computational algorithm / method*, based on the preceding ideas

5. an *implementation* of the new algorithm on computer, for calculating the bonding energy of the two interacting electrons in the helium atom

   (a) *quantitative result:* I have got a quantitative result that's crude but encouraging (-2.67 au vs. the experimental value of -2.90 au)

6. a new proposal for a *special-relativistic treatment* for the new approach

    (a) a mostly *conceptual* proposal, but informed by quantitative considerations too, on incorporating *the QM spin* in the new description

7. a *purely conceptual-level conjecture*

    (a) a purely conceptual conjecture as to how the problem of integrating *QM and Gravity*, may perhaps be approached

2 Informal interactions are needed and requested

I now need to have some small informal interactions with a few *physicists* proper.

So, the *overall sequence I now propose* is this:

1. I will write a barest essential document, in a highly point-by-point manner, and send it to a few physicists proper.

2. The physicists will let me know their initial and highly informal feedback, especially the parts they didn't understand, or the points that need to be added, amplified, or clarified, etc.

3. Based on such informal feedback, I will write a more comprehensive document. This document will be a precursor to an arXiv paper. I will upload this document at the Harvard-based forum iMechanica, for any one to download and comment.

    (a) It will be more comprehensive but still informal. It will have many more figures, but these will still be digital camera snap-shots of hand-drawn sketches.

4. Based on the feedback to this second document, I will write an arXiv paper and submit it to them.

(a) The arXiv version will be more scholarly, carrying also references, and with figures drawn on computer using vector graphics, etc.

5. Based on the further feedback on the arXiv paper, I will finally write a smaller and tighter version, suitable for publication in a journal, and send it to a journal.

3 Why is the informal interaction necessary?

I need the informal feedback mentioned in the step 2. from the preceding section, because:

- By training, I am an engineer, not a physicist
- Also, currently I am outside academia. (In the past, I've taught courses in engineering to UG and PG students in the universities in Mumbai, Pune and Aurangabad).
  - So, currently, I have no access to physicists.
- In the absence of the initial, informal feedback, I am afraid:
  - I might end up spending too much time in the document on some points that would be very obvious to a physicist,
  - and, separately, I may perhaps *not* provide adequate explanations for some *other* points which I take as being too obvious to be stated, but which might cause difficulties of understanding, to the target audience, namely, *physicists* of the day.

Please note,

- Physicists themselves are always immersed in such interactions at all times.
  - Informal feedbacks are a norm in research, whether in engineering or physics.
- But being an engineer, my circle does not have any physicist.
  - I have had informal interactions with many researchers from all over the world, including those from the leading or top universities, but only in the field of *applied mechanics*, mainly via the Harvard-based forum: iMechanica.
  - I have no contacts in physics.
- However, for this document, it's critical that I get feedback from *physicists* proper, not applied mechanicians.

4 My anticipation in general

In view of the extent of the development, and also the quantitative result (after computational modelling), I think I have reasons to hope that physicists may not out-of-hand dismiss this new approach as yet another crack-pot theory.

5 My request to physicists

At this stage, I request physicists that at least a few of them *agree to provide that initial and highly informal feedback*, in the spirit of fellowship that is quite common in science and engineering.

Others may circulate this document to the physicists proper whom they know.

I now await reply from physicists. Thanks for your time and attention.

Best regards and wishes,

–Ajit
Pune, India
