A Theoretical Study of Quantum Cuteness[1]

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Abstract: We generalize the concept of classical cuteness to the quantum regime and thereby provide a rigorous formulation for the notion of probabilistic and quantum cuteness. We suggest several experiments and establish that women can be used to construct quantum computers.

Keywords: Cuteness operator, rigidity operator, quantum mechanics, women, perturbation theory

The concept of classical cuteness has been well-known in the physics community for several thousand years.[2] It was not until the advent of quantum mechanics in the early 20th century, however, that scientists began to ponder the possibility that the classical cuteness operator could be successfully quantized. This possibility was further supported by the recent development of a probabilistic generalization of the notion of cuteness.[3]

Let us briefly review the classical notion of cuteness. One might, for example, attend an advanced mathematics lecture at a local university and casually observe that the girl at the next desk is

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[1] Experimental verification of the results of this Letter has not yet been obtained because of lack of cooperation by the experimental subjects.
[2] The Bible
[3] P. Master, Senior Thesis, California Institute of Technology, 1998.

really hot. This provides a trivial but illustrative example of classical cuteness.[4][5]

The probabilistic notion of cuteness can arise in several manners. One example of this is word-of-mouth. Depending on the trustworthiness and gender of the person disseminating this information, one assigns a probability between 0 and 1 that the girl in question is cute.

Although this may not be immediately obvious, quantum cuteness is—in fact—a trivial generalization of classical cuteness. As motivation, suppose one sees a girl out of the corner of one's eye. In another example of probabilistic cuteness, one determines that the girl is cute with probability *p* and therefore not cute with probability *1-p*. This can be represented quantum-mechanically as a superposition of two states |0> and |1>, where |0> represents the ground state (in which the girl is not cute) and |1> represents the excited state (in which the girl is cute). This girl's wavefunction is then $\psi = (1-p)|0\rangle + p|1\rangle$, which is (not coincidentally) reminiscent of the wavefunction describing a single-bit quantum computer. This shows that women can be used to construct quantum computers.[6]

To extract whether a girl (i.e., wavefunction) is cute simply requires one to perform a proper measurement. (This requires experimental verification, which is the subject of future research. We feel that collaboration will be necessary to complete this portion of the project.) Once this measurement has been performed, the wavefunction collapses. One is either in the ground or excited state rather than in a superposition of them both.

In sum, we have successfully quantized the classical cuteness operator and showed that women can be used to construct quantum

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[4] P. Master and M. Porter, "Sex is Trivial. Trust Me." *International Journal of Dynamical Rigid Bodies and Non-Euclidean Perturbation Theory*, 2002.

[5] P. Master, "Resonance Effects Due to Application of The Cuteness Operator," *Physical Review Letters*, 2002.

[6] J. Random Scientist, "How to Get NSF Funding: Volume 3," 1998.

computers. We hope this short Letter has helped arouse the reader's interest in the subject.

Future Work:

Experimental results are pending. Finding sufficiently many data points to experimentally verify the theoretical work discussed in this paper has been somewhat problematic. Collaboration will be necessary to complete this portion of the project, and additional OHS funding may prove necessary as well.

Future theoretical work involves lots of perturbation theory. We also wish to develop a cuteness operator and study its commutation relation with the inebriation operator as well as with raising and lowering operators (which can turn ground states into excited states and vice versa). Applications to classical and quantum many-body problems will be discussed. We will also explore the conjugation of the cuteness operator with excited harmonics.

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Writer's Notes:

1. I had to resist the (very strong) urge to post this paper on the arXiv. I actually want to get a job in this business.
2. In case this wasn't obvious, this article is meant as a joke. I apologize if my sense of humor can be offensive at times. Nobody forced you to read this essay, so if you can't handle my humor, the simplest solution is put this down. "If you're not sacrilegious, you're not trying hard enough."

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