

As is known, in 1926 was formulated in by Erwin Schroedinger a partial differential equation that describes how the quantic state of a physical system changes with time. For it, in 1933, he received the Nobel Prize (together with Paul Dirac).

It contains the factor Ψ , referred somewhat improperly as "wave function". The significance of it was at first not understood, until Max Born interpreted it as defining the probability of finding a particle in a determinate position of space. He received the Nobel Prize for it in 1932. The possibility can be represented by a Gauss curve, with maximum in the center and coming asymptotically to zero in the extremities. The mathematical formalism adopted leaves clear that in the instant the location of the particle is made, all probabilities disappear. Strangely, since the formulation to this day, numerous discussions about the significance of this disappearance occur, maintaining that there is something misterious in it (Copenhagen interpretation). Nevertheless, when we have a dice in hand before we throw it the possibility of each face falling upside is one to six. In the moment it falls upon the table and immobilize, to me it's clear one can no more speak of probabilities, as one of the faces was defined. Its obvious, there is nothing misterious in it, as even Einstein and Niels Bohr concurred. A supposed "observator's influence" is therefore nonsense.

It seems to me that's what occurs when one imagines that Physics necessarily must be described by mathematical formulas, even when they are not needed, as is the case. In this love by mystery, even today is frequent the understanding that the wave function signifies that the particle is in all places at the same time, and quantic theory would make possible the creation on a computer capable of realizing simultaneously infinite mathematical operations, a thing that would be useful, for instance, in breaking cryptographed texts.

Another common mistake that has the same origin consists in "multiple universes interpretation", that erroneously affirms the objective reality of the universal wave function.