

Other Views:

Popular View

Bohr View

Cohen - ~~et al.~~

Einstein

Bopp

Werner-Siegel

Schrödinger (closest to our own)

We cannot hope to do full justice to these views in this paper, but can only give brief descriptions here, and refer reader to original document.

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Popular View: It objectively characterizes state of system, changes deterministically within isolated prob. under observation. (Process 1 and 2, intro.)

Difficulties: dependence upon acts of observation ...

Paradoxes when several observers present.

We must emphasize that

Bohr View: Stems mainly from lack of account (in class lang) of experimentally given. Difficulty: dualistic, no hope of explaining class level, -- not capable of describing process itself. (no complete model -- adheres to "reality" concept on class level.)

Hidden Variable View: Cohen: If field real field, also particle present --- causal, but cumbersome.

Einstein: all follows from some appropriate covariant unified field theory - status unknown due to lack of knowledge of non-linear O.E.'s

Werner-Siegel - Straightforward A.V. theory, with infinitely many hidden variables. Computational difficulties, perhaps not insurmountable.

Dyson - Stochastic model - O.K. but apparently gives slightly different results - i.e. not observationally equivalent to others. Could prove in principle be decided by experiment

Schrödinger - essentially closest to present view - takes waves as fundamental entity.

Other:

- Popular View: Copenhagen Scheme: (in no way objectively characterizes wave systems)
- Hidden Variable View
- Stochastic View
- Wave-View
- (Von Neumann) - damping terms convert to real mixtures to avoid paradox. (alters formalism)

leaves gap with no model at all.
for criticism see
Peter Günther, Bohm
Wigner etc.

Survived