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## How quantum TGD differs from standard quantum physics?

1. Pointlike particles are replaced with 3-surfaces/partonic 2-surfaces
2. Quantum fields are replaced with WCW spinor fields
3. Zero energy ontology (ZEO) implies new view about
  - (a) information (Negentropy Maximization Principle)
  - (b) state function reduction extending quantum physics to consciousness theory
4. p-Adic physics forcing generalization of concept of number and space-time itself so that physical correlates of cognition become part of quantum physics
5. New view about the relationship of experienced and geometric time
  - (a) explaining how the experience about flow of time and arrow of time emerge
  - (b) explaining how the contents of sensory experience are localized in narrow time interval
  - (c) suggesting a mechanism of memory based on communications with geometric past
6. Hierarchy of Planck constants giving rise to dark matter hierarchy having implications in in all scales including cosmology, elementary particle physics and biology
7. The notion of finite measurement resolution strongly suggesting that
  - (a) so called hyper-finite factors of type  $II_1$  replace factors of type III appearing in algebraic QFT and factors of type I appearing in wave mechanics
  - (b) discretization at space-time level suggested also by number theoretic constraints is essential part of the description