

Prado PF, [ppradogm@gmail.com](mailto:ppradogm@gmail.com) . dated: 05/04/2018,

Conjectures on Pre-Planck versus Planck era features

The called pre Planck ERA stands to a two dimensional real manifold that cannot be turned into a Riemman Surface because it is not endowed with a metric and an orientation. The distinctive feature of the Planck era is that: the two dimensional real manifold (possible a Torus, less probable spherical ) is endowed with the existence of a metric (Planck constant) and a orientation : the time narrow. During the Planck era the real two dimensional manifold can be turned into a Riemman Surface and, consequently, endowed with a complex structure that allow the unambiguous definition of holomorphic functions. It seems that exactly the same occurs on the called Fermi-Pasta-Ulam experiment that converges to an integrable (Hamiltonian) system on the frame of KAM theory.