

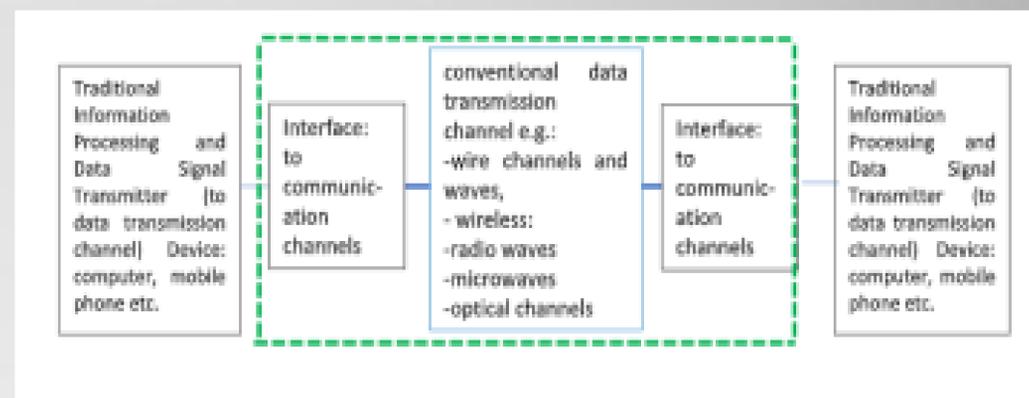
THE CPT (CHARGE, PARITY, TIME) SYMMETRY BREAKING-BASED QUANTUM OPTICAL TELECOMMUNICATIONAL INVENTION AND ITS APPLICATION TO THE SPACE AND PLANETARY SCIENCES

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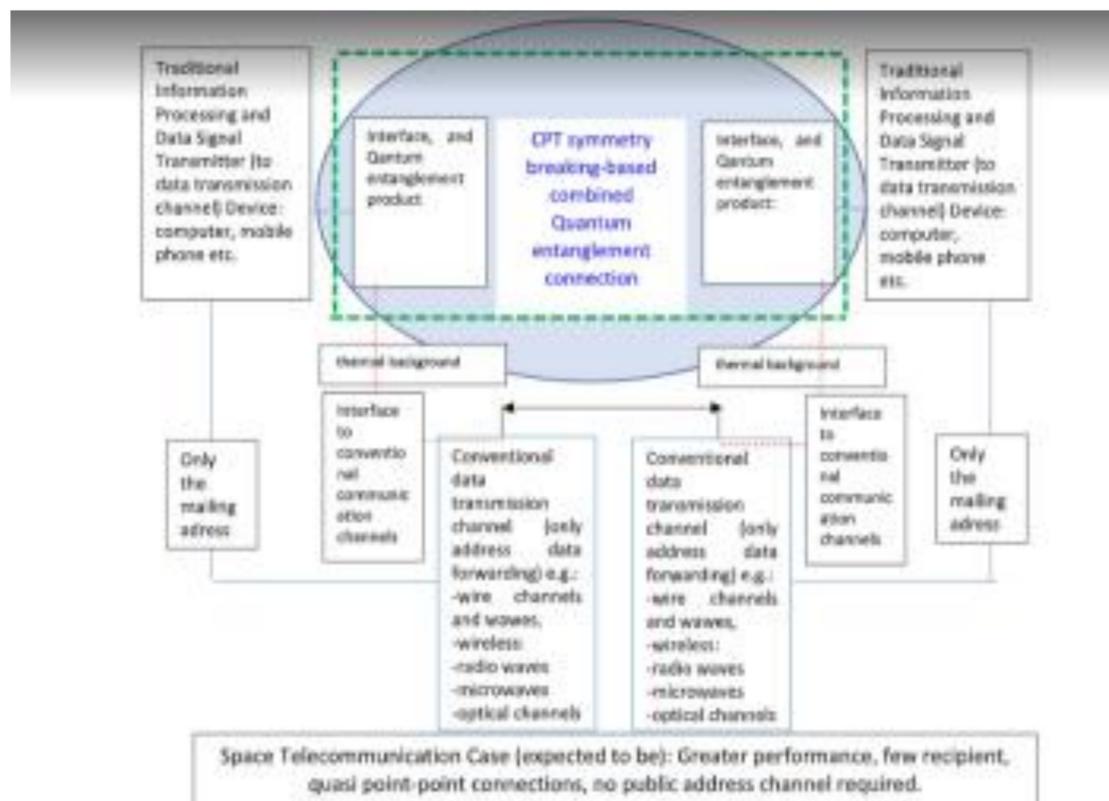
INTRODUCTION: In this description Homor and Gucsik (2018), we have previously described our innovation as well as our invention, which were before patenting, to clarify several factors, as follows. The present invention is now patented, so we can describe the features of this Conference.

All solutions to the invention are based on the content of the patent application, in which for the purpose of data transmission or long-distance status detection (e.g., astronomical investigations - space exploration, nanoscopic-femtoscopic examinations, etc.) is due to the gravity-driven charge-parity-time (CPT) symmetry breaking features.

The non-separable as well as locally-developed state function (quantum entanglement) is modified by the gravity, as follows.



A sketch of the today's telecommunication systems



A sketch of our invention

INVENTION: The patent application uses locally generated quantum entanglement relationships on specially designed, distributed geometry structures (like topological invariants) that are modified along a global function - *Gravity Operator*: which intertwined states locally change, based on globally intertwined, complex quantum entanglement relationships.

A new type of quantum merger (globally complex Quantum entanglement) was created with a separate wave-receiver or tax/receiver pairs (or broadcast and transceivers). This connection does not occur directly in the field of the space-time interval (traditional term: currently associated with the characterization of the four-pulse invariance). Because, in a way, there is no direct spatial relationship between the connection elements: because, at the same time, the locally coupled particle pairs do not pass through a long distance data link. The unique, separate, transmitter-to-customer, ie, local quantum entanglement, directionally-spaced structures (possibly transmitter-receiving units) are also manifested: this is a merger, which is based on our newly discovered CPT symmetry breaking phenomenon.

It is important to note that the CPT symmetry breaking phenomena was calculated by the theoretical way as well as measured by the lab experiments.

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