Relativistic Positioning: the clarifying example of four static emitters

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Abstract

To gain insight into the theory of Relativistic Positioning Systems (RPS) [1, 2, 3], in this talk we will analyse a positioning situation with four static satellites emitting their proper times through electromagnetic signals in Minkowski space-time. The relevant quantities to locate a user are obtained and interpreted [4]. Then, the characteristic RPS space-time regions are analysed both in inertial coordinates and in the grid space of the broadcast proper times [5]. To extend the results to more general location systems, the regions of the grid space are analysed depending on the emission or reception character of the coordinates, considering mixed situations in which the satellites act as receivers and the user as emitter [6].

References

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