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The Next Steps (A4)
SETI 1: SETI Science and Technology (1)

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KLT FOR AN EXPANDING UNIVERSE WITH SETI APPLICATIONS.

Abstract

The relativistic KLT was first considered by one of the authors as early as the 1990's, but that was confined to special relativity only.

In this paper, we attempt, for the first time, to extend the KLT calculations to the Friedmann-Lemaître-Robertson-Walker (FLRW) metric of the expanding universe.

It is claimed that our new results could be of interest for SETI applications about incoming signals from receding galaxies.

Mathematically speaking, our procedure is:

1. To rewrite the FLRW metric so as to make clear what is the particular FLRW time-rescaling function $f(t)$ of the general KLT for time-rescaled Gaussian processes.
2. Then work out the KLT for this time-rescaling function in all details: eigenvalues, eigenvectors, normalization constants, etc.
3. Finally, the application of this time-rescaled KLT to SETI signals from receding galaxies will be considered.