

# SOME METHODOLOGICAL ASPECTS TO CALCULUS OF LAPLACE TRANSFORM WITH MATHEMATICAL PACKAGES

Victor Pricop

*Technical University of Moldova, Chişinău, Republic of Moldova*

pricopvv@gmail.com

The Laplace transform has many important applications in mathematics, physics, optics, electrical engineering, automation, signal processing and probability theory. It is also a tool for solving differential equations.

In Higher Mathematics one of modules is dedicated to the Laplace transform. If the function  $f(t)$  is an *original function*, then the Laplace transform is defined by [1]  $\mathcal{L}f(s) = \int_0^{\infty} f(t)e^{-st} dt$ , where  $s$  is a complex frequency domain parameter  $s = a + bi$  with real numbers  $a$  and  $b$ .

In practice, it is not simple to calculate a Laplace transform for a function  $f(t)$ , it is necessary to use some properties of Laplace transform for this [2] but this one offers specific facilities which helps solve and interpret various problems.

The main objective of this paper is to finding the Laplace transform of some functions using special programmes Maple [3], Wolfram Mathematica [4]. Digital applications are useful in the teaching process, in determining of the Laplace transform that can be used to solve various concrete problems.

### References:

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4. <https://reference.wolfram.com/language/ref/LaplaceTransform.html>