

Short lecture

Nspire CAS and Laplace Transforms

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ABSTRACT

There is no built-in Laplace transform function in Nspire CAS but a library can be used to deal with this stuff - essentially the one written originally for TI-89. For more details about this library, our colleague Chantal Trottier wrote an interesting document with examples:

<http://seg-apps.etsmtl.ca/nspire/documents/transf%20Laplace%20prog.pdf>.

The library can also be downloaded there.

In this talk, we use this Laplace transforms package to automate some engineering applications, such as mass-spring problem and RLC circuit. Using animations of response to indicator function inputs, we will try to get a better understanding of what is a Dirac delta function. Also, the concept of convolution will be revisited.

Keywords

Laplace transforms, engineering applications, impulse functions.