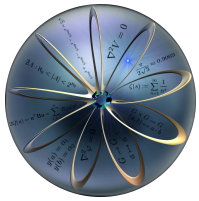

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Mellin transform

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The *Mellin transform* is an integral transform defined as follows:

$$F(s) = \int_0^\infty f(t) t^{s-1}\, dt$$

Intuitively, it may be viewed as a continuous analogue of a power series — instead of synthetizing a function by summing multiples of integer powers, we integrate over all real powers. This transform is closely related to the Laplace transform — if we make a change of variables $t = e^{-r}$ and define g by $f(e^{-r}) = g(r)$, then the above integral becomes

$$F(s) = -\int_{-\infty}^{+\infty} g(r) e^{-rs}\, dr,$$

which is a bilateral Laplace transform.

(more to come)