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A note on fractional derivatives and Laplace's transform of fractional order.

We study definition of a fractional Laplace's transform, or Laplace's transform of fractional order, which applies to functions which are fractional differentiable. After a short survey on fractional analysis based on Riemann–Liouville derivative, we define the fractional Laplace's transform. Fractional comparison principle is introduced and the application of Riemann–Liouville fractional order is extended by using Caputo fractional order . The presented results are illustrated by analyzing some examples to demonstrate the effectiveness of the presented analytical approaches. (Received January 20, 2011)