1146-60-369 **Jerzy Szulga*** (szulgje@auburn.edu), Department of Mathematics and Statistics, Auburn University, AL 36849. *Gamma processes as models of random time.* Preliminary report.

The general theory of single and multiple Poisson integrals (or integrals with respect to pure jump Lévy processes) is well known and documented. At the same time, special Lévy processes such as stable process yield their own rich area which is not a subset of the general theory. By the same token, we focus on the Gamma integral on a set T equipped with a sigma-finite continuous measure space μ, including positive, symmetric, and skewed Gamma processes. The corresponding spaces of integrals form Musielak-Orlicz spaces, e.g., for a positive Gamma process, $\{f : ||f||_{0+} = \int_T \ln(1 + |f|)\, d\mu < \infty\}$.

We study properties of such infinite divisible random integrals such as the existence of moments, including exponential moments and the resulting exponential martingales, conditioning, or the inverse processes. The slow variability of the logarithmic function that entails the modular causes a number of technical difficulties. The cases of a finite and infinite measure differ significantly. While some of them have been resolved yet there remains a number of open questions. (Received January 27, 2019)