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Tempered fractional stable motion.

This talk considers heavy tailed analogues to tempered fractional Brownian motion (TFBM), a process recently introduced by the authors [*Statist. Probab. Lett.* **83** (2013), 2269–2275]. TFBM modifies the power law kernel in the moving average representation of a fractional Brownian motion, adding an exponential tempering. The increments of TFBM exhibit semi-long range dependence, close to that of a fractional Gaussian noise at moderate lags, but ultimately short range dependent. Replacing the Gaussian random measure in the moving average or harmonizable representation of TFBM by a stable random measure, we obtain a linear tempered fractional stable motion, or a real harmonizable tempered fractional stable motion, respectively. Unlike the Gaussian case, linear tempered fractional stable motion and real harmonizable tempered fractional stable motion are two completely different processes. Existence, basic properties, sample path behavior, and dependence structure of both processes will be described. (Received September 12, 2013)