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University of Massachusetts Lowell, One University Ave., Lowell, MA 01854. *On a class of stable  
random processes that are self-similar but do not have stationary increments.* Preliminary report.

We begin to study some random processes having an integral representation with respect to a single  $\alpha$ -stable random measure,  $0 < \alpha \leq 2$ . The integrand of a typical process in this class of  $\alpha$ -stable processes is parametrized also by  $\alpha$  and by positive numbers  $\delta$  and  $H$ . When  $H$  lies in a certain bounded interval specified by prescribed functions of  $\alpha$  and  $\delta$ , the process is well-defined, and, in fact, is  $H$ -self-similar. Our aim is to determine those  $\alpha$  and  $\delta$  for which it has stationary increments. In the Gaussian case ( $\alpha = 2$ ), for example, the increments are stationary if and only if  $\delta = 1/2$ . The process then must be fractional Brownian motion with  $H$  restricted to  $(1/2, 1)$ . When  $\alpha = 1$ , it fails to have stationary increments for all  $\delta > 0$ . What if  $\alpha \in (0, 1) \cup (1, 2)$ ? This case is more delicate. (Received September 08, 2013)