1067-60-1161 **Yalcin Sarol***, 8600 University Blvd, Evansville, IN 47712. *Stochastic control for linear systems with fractional Brownian motion.* Preliminary report.

We consider some stochastic control problems for dynamical systems driven by fractional Brownian motion B^H with any Hurst parameter $H \in (0, 1)$. The linear-quadratic (LQ) control class will be the main framework where both Markovian and non-Markovian feedback controls will be studied. The interpretation of the integrals with respect to B^H is in the Skorohod sense. (Received September 19, 2010)