1024-60-240 **Fariborz Asadian***, Dept of Mathematics and Computer Science, Fort Valley State University, 1005 State University Drive, Fort Valley, GA 31030. *Smooth Measures as Solutions of Kolmogorov's Equations in Hilbert Space.* Preliminary report.

We apply stochastic analysis to obtain smoothness properties of measures associated with Kolmogorov equations of the type $\frac{\partial v}{\partial t}(t,x) = \frac{1}{2}\text{Trace}\,[(G(t)Q^{1/2})D^2v(t,x)(G(t)Q^{1/2})^*] + \langle Ax + F(t,x), Dv(t,x)\rangle$ on a separable Hilbert space H. Here Q is a positive definite trace class operator, A is the infinitesimal generator of a C_0-semigroup of operators, and F and G are functions with values in H and $L(H)$, respectively. These measures are shown to be the fundamental solutions of the corresponding forward equations. (Received January 09, 2007)