1010-35-39   **Jong Uhn Kim*** (`kim@math.vt.edu`), Department of Mathematics, Virginia Tech, Blacksburg, VA 24061. *stochastic Benjamin-Ono equation.*

We discuss the Cauchy problem for the stochastic Benjamin-Ono equation in the function class $H^s(R)$, $s > 3/2$. When there is a zero-order dissipation, we also establish the existence of an invariant measure with support in $H^2(R)$. Many authors have discussed the Cauchy problem for the deterministic Benjamin-Ono equation. But our results seem to be new for the stochastic Benjamin-Ono equation. Our goal is to extend known results for the deterministic equation to the stochastic equation. (Received August 08, 2005)