Abstract Submitted for the APR12 Meeting of The American Physical Society

Status of the EXO-200 double beta decay search RYAN MACLEL-LAN, University of Alabama, EXO COLLABORATION — A 200 kg lowbackground liquid Xe double beta decay detector (EXO-200) has been installed underground at the WIPP facility outside Carlsbad, NM. EXO-200 has already provided the first measurement of the two-neutrino decay mode of ¹³⁶Xe with a half-life of $2.11 \pm 0.04(\text{stat.}) \pm 0.21(\text{syst.}) \times 10^{21}$ yr. While two neutrino double beta decay has already been observed by other experiments, this is the first observation using ¹³⁶Xe and also the rarest. I will provide an update on the status of our experiment and the search for neutrinoless double beta decay.

> Ryan MacLellan University of Alabama

Date submitted: 06 Jan 2012

Electronic form version 1.4