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Cryogenic molecular beam source of ThO for a measurement of the electric dipole moment of the electron YULIA V. GUREVICH, Harvard University, O. KEITH BAKER, Yale University, WESLEY C. CAMPBELL, Harvard University, DAVID DEMILLE, Yale University, JOHN M. DOYLE, GERALD GABRIELSE, MAARTEN A.H.M. JANSEN, Harvard University, AMAR C. VUTHA, Yale University, ACME COLLABORATION — A cryogenic beam of thorium monoxide (ThO) molecules in the metastable H state has been proposed as a system for measuring the electric dipole moment of the electron. We report our progress towards realizing a cold, high-flux molecular beam source of ThO, including production and buffer-gas cooling of ThO molecules and an experimental lower limit on the lifetime of the H state.

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