

Abstract Submitted  
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**Production and Analysis of U<sub>6</sub>Nb Thin Films** LOGAN PAGE,  
Brigham Young University — Uranium alloys are important materials in nuclear energy production. Their durability and longevity are affected by their rates of oxidation. It is hypothesized that U<sub>6</sub>Nb alloys form a surface oxide layer that protects the internal composition from further oxidation. To determine the oxidation patterns of U<sub>6</sub>Nb, we are creating thin films of varying uranium-niobium ratios by sputtering in a vacuum-controlled environment. I have conducted analysis of the composition and properties of the produced thin films via ellipsometry, observing their behavior over time. Here I will present the results of the ellipsometry and their indications with respect to oxidation rates and patterns.

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