

Abstract Submitted
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The design and use of a planetary in a sputtering system BRETT BOSTROM, Utah State University, DAVID ALLRED, R. STEVEN TURLEY, Brigham Young University — Low variations in thickness over dimensions of several cm are important for preparing film suitable for optical characterization. Our group at BYU is interested in determining the XUV optical constants (at wavelengths of 5-100nm) of materials useful in XUV optics. In particular we have been studying the constants of oxides and comparing them with the constants of their parent elements. These include scandium, yttrium and uranium oxides prepared by reactively sputtering in an argon-oxygen plasma. To increase lateral thickness uniformity we have designed and implemented a system of planetary gears that increases motion over the sputtering target. Simulations predict a thickness variance of less than 3 percent over 5cm 5 cm areas. We will present the design and results of the work.

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