Abstract Submitted
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Spray Pyrolysis of Non-stoichiometric Zinc Tungstate Thin Films[1] SETH KING, BRANDON ZINK, ETHAN DINAUER, JOSEPH KRUEGER, University of Wisconsin - La Crosse, UNIVERSITY OF WISCONSIN - LA CROSSE TEAM — Zinc tungstate ($ZnWO_4$) has recently shown promise as a photon harvesting material for possible applications in photovoltaic and photocatalytic devices. While substantial work has focused on understanding the properties of stoichiometric $ZnWO_4$, little work has investigated the non-stoichiometric material where the Zn to W ratio is varied from ideal. In the present study, we report on the fabrication of non-stoichiometric zinc tungstate thin films by spray pyrolysis. Results suggest that this technique may be utilized to deposit material with any desired Zn to W ratio. Therefore, the structural, electrical, and optical properties of non-stoichiometric zinc tungstate materials may be characterized and engineered for specific applications.

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