

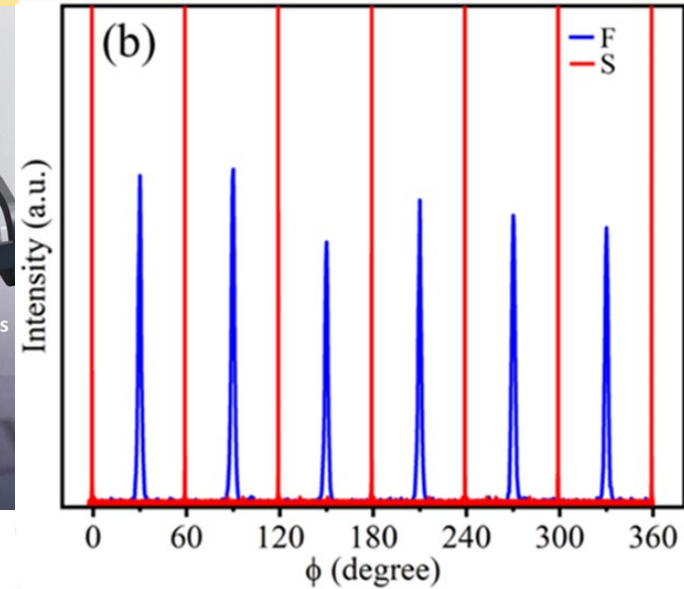
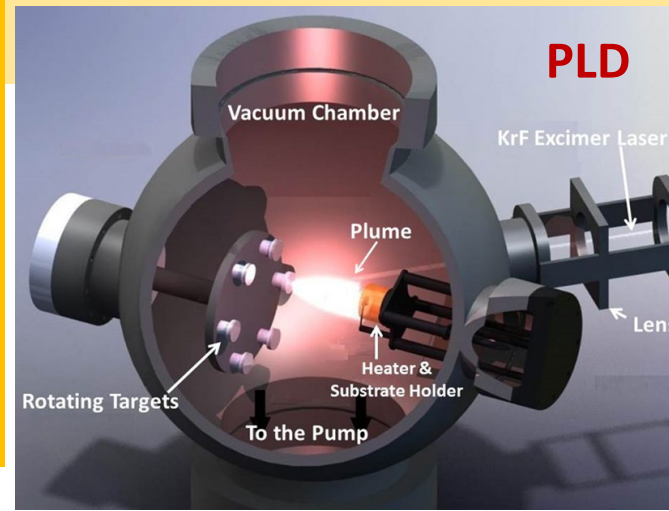
NCAT-Cornel PREM: Collaborative Research and Education in Energy Materials (CREEM)

Dhananjay Kumar, North Carolina Agricultural & Technical State University

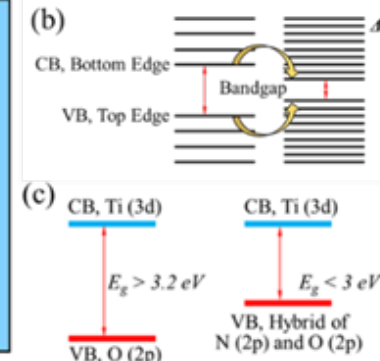
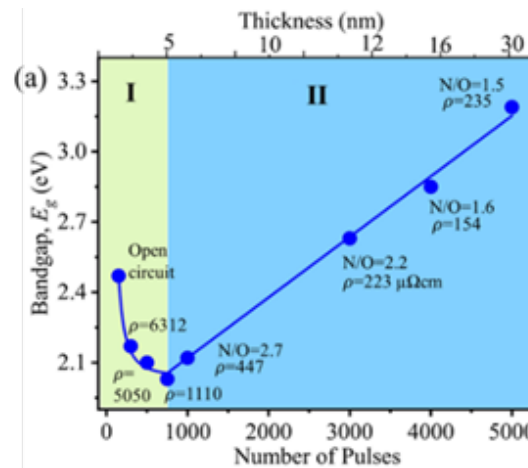


DMR-2122067

- Discovery of a transition metal (TM) based oxynitride (TMON) homolog series that is capable of supporting energy conversion reactions and that serves as a platform to gain an understanding of materials' fundamental physical and chemical properties across different length scales
- The PREM project has provided financial support and mentoring to 17 graduate students and 12 undergraduate students. There are currently 23 senior investigators that are supported and affiliated with the PREM project at North Carolina A&T State University and Cornell University.



NCAT PREM- Cornell MRSEC Team: Winner of the 2023 NCAT Interdisciplinary Research Team Award
The award recognizes annually a research project that stretches across the traditional boundaries of academic disciplines. The award involves a plaque and \$5000 cash prize.



Synthesis of epitaxial titanium oxynitride thin films by pulsed laser deposition (PLD) method with a tunable bandgap
ACS Applied Materials and Interfaces, 15, 4733-4742 (2023).

Four peer-reviewed Publications and **Twenty-seven** technical presentations during the reporting period of 2022-2023

