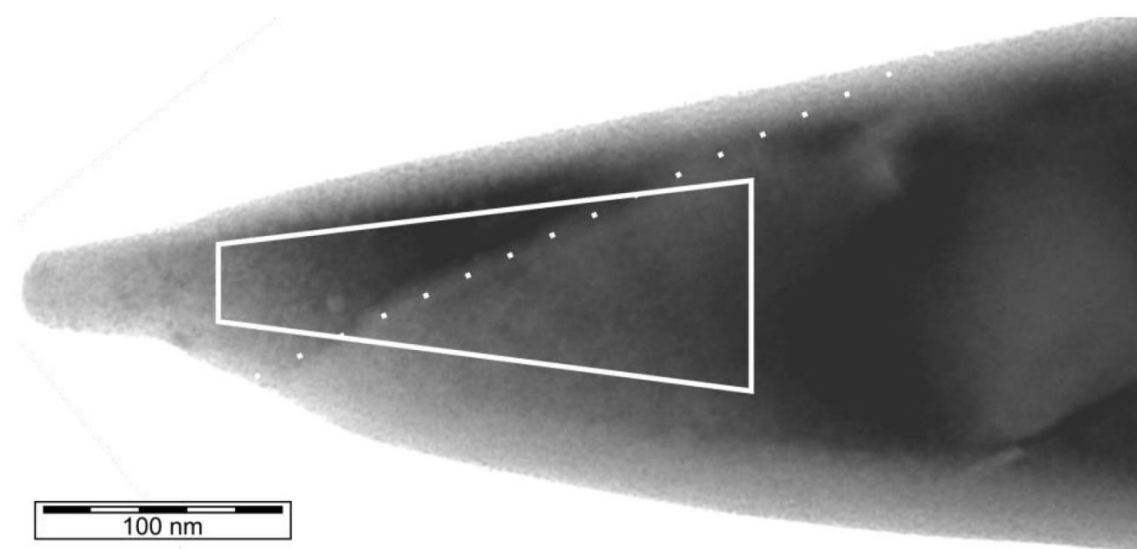


Preparation of atom probe samples at a grain boundary

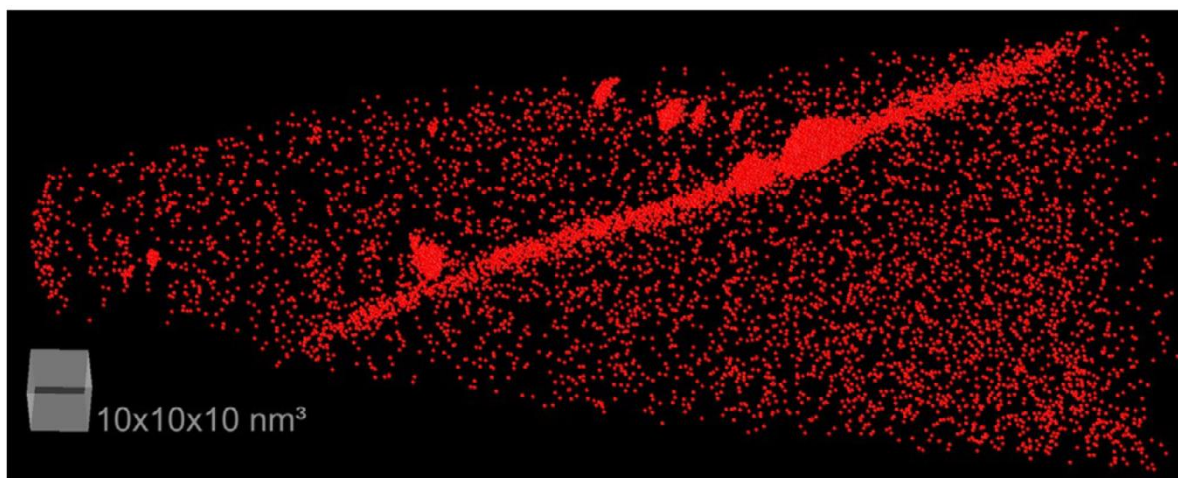
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When impurities segregate to grain boundaries, they can degrade the performance of such diverse materials as fuel cell electrolytes, catalysts, memory devices, and high strength steels. This project aims to prepare samples that contain grain boundaries for investigation with atom probe tomography. Within this project you will use the Focused Ion Beam Microscope to fabricate the nanoscale atom probe tips at grain boundaries and then characterize them with a Transmission Electron Microscope.



Grain boundary in a LiMn₂O₄ sample.



Segregation of sodium at the grain boundary shown above.