

## Supplementary Information

### 1. Morphology of the Ablation Craters

The ablation craters for pure Cu, pure Sn and on the boundary of Cu and Sn are shown below.

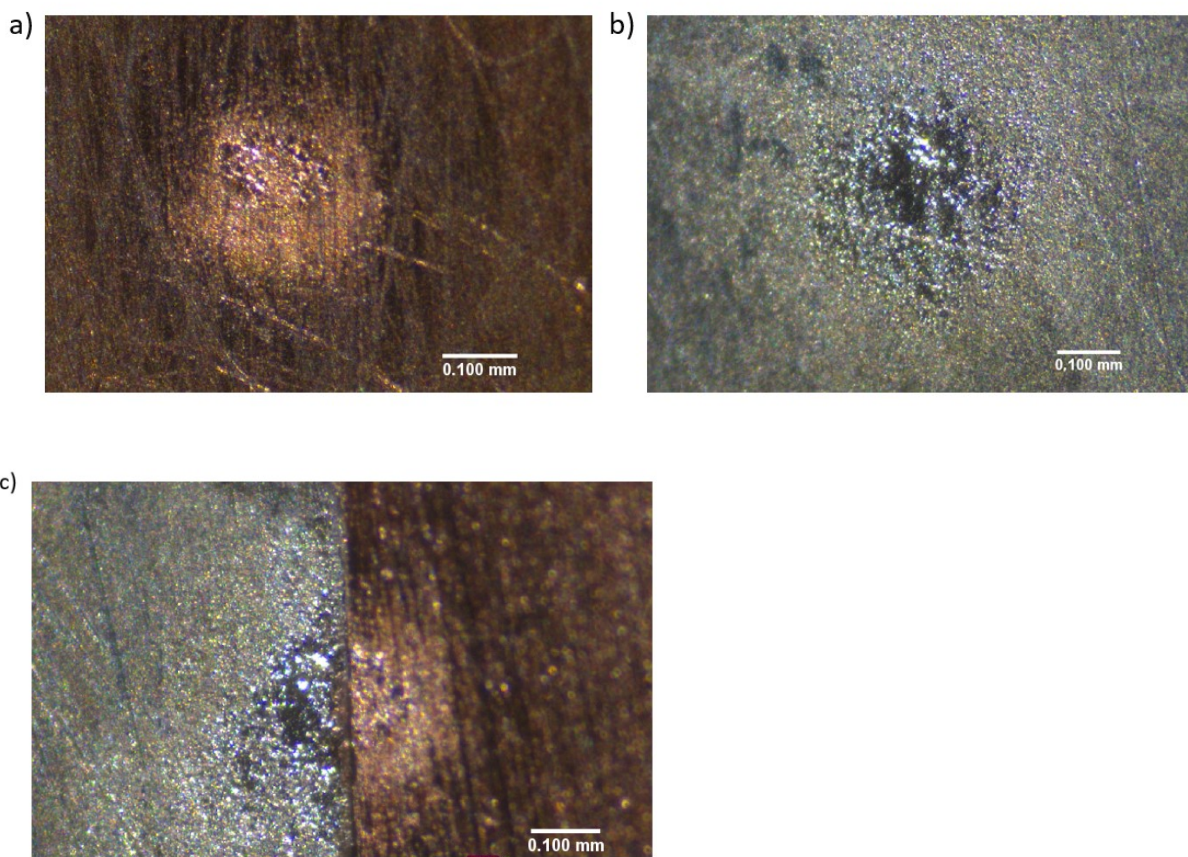


Figure S1: The ablation craters observed for a) Pure Sn b) Pure Cu and c) The boundary of Cu and Sn

### 2. Intensity of spectral lines of Cu and Sn with varying collection angles for pure samples

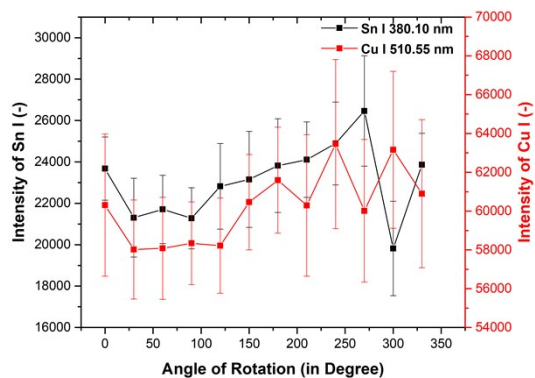


Figure S2: The variation of Cu I 510.55 nm and Sn I 380.10 nm spectral lines with varying collection angles

### 3. Stark Broadening of Cu I 510.55 nm spectral line

The Stark broadened profile of Cu I at 510.55 nm was selected to calculate the electron number density. The spectral line was fitted with a Voigt profile and the electron impact width parameter that was used was 0.0319.

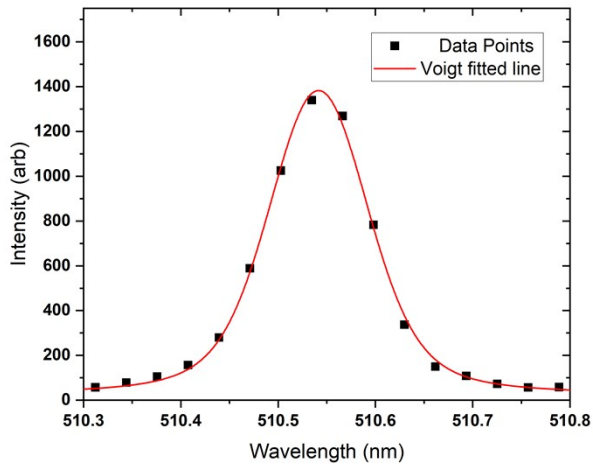


Figure S3: Data points of 510.55 nm line of Cu I with Voigt fit.