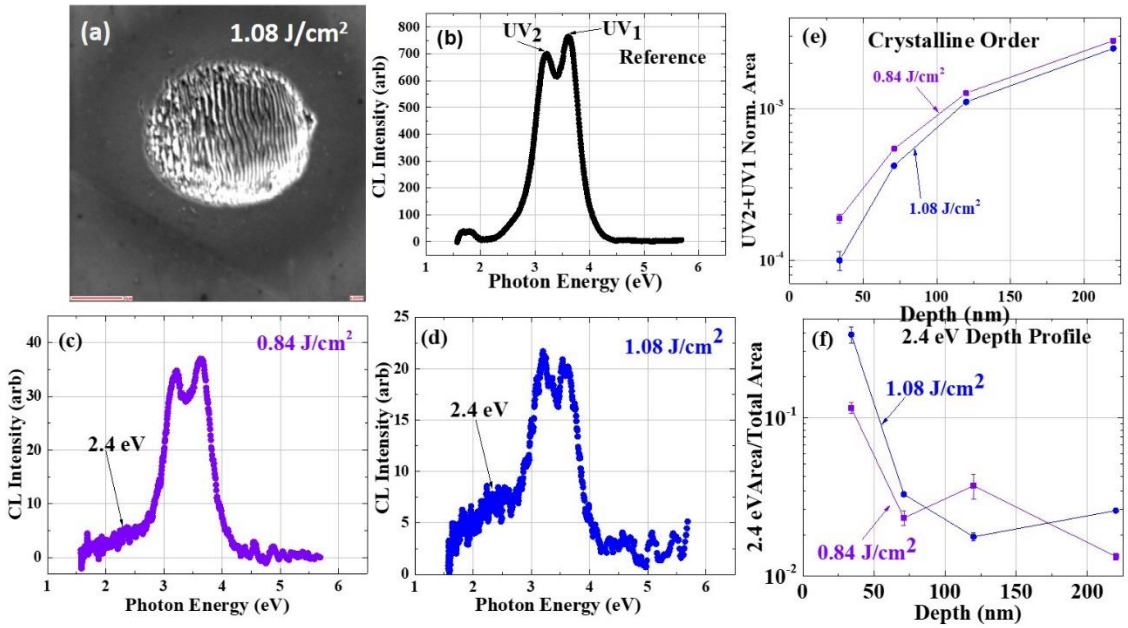

Fig. 1 (a) 10 kV SEI of 1.08 J/cm^2 laser-induced damage/rippled regions. E_B=1.5 keV DRCLS of (b) undamaged, (c) 0.84 J/cm^2, and (d) 1.08 J/cm^r rippled regions. Depth profiles of (e) crystallinity and (f) 2.4 eV emission show defect increases towards the surface that correlate inversely with crystalline order.

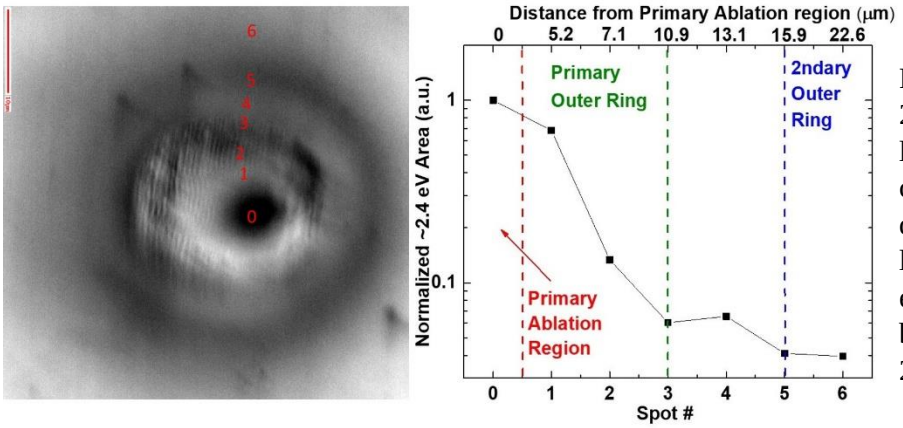

Fig. 2a) SEI at E_B=1.5 keV of a 2.1 J/cm^2 crater with specific locations numbered and (b) a corresponding lateral ~2.4 eV defect density profile of those locations. Defect density extends into flat areas, dropping below detection limits only past 2ndary outer ring.

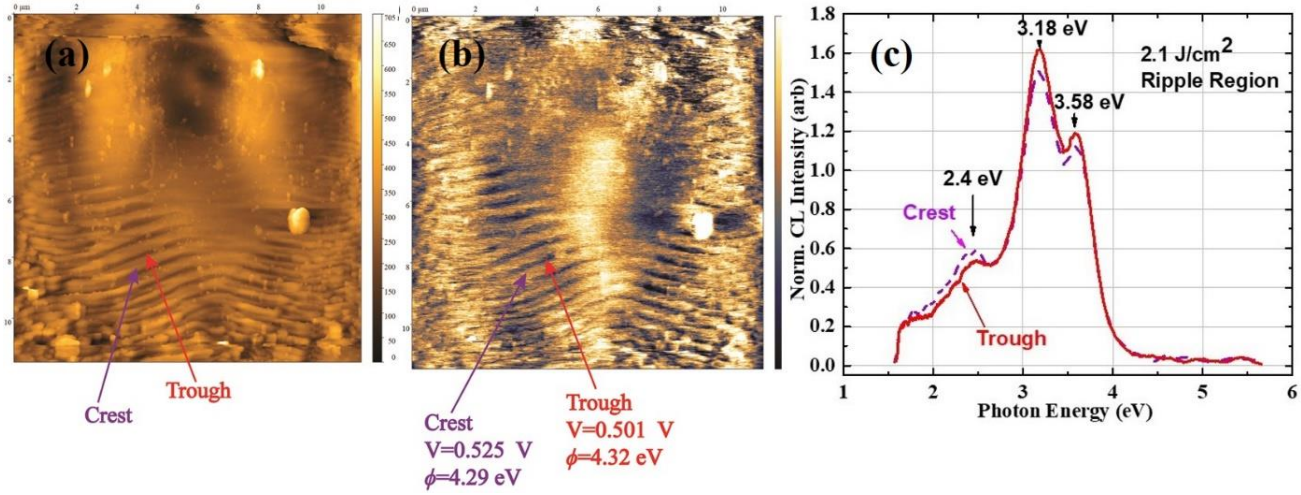

Fig.3 2.1 J/cm^2 crater (a) non-contact AFM and (b) KPFM maps showing crests and troughs with corresponding work function differences. (c) E_B=1.5 kV DRCLS crest and trough spectra show relative increase in 2.4 eV defect emission within crest vs trough region.