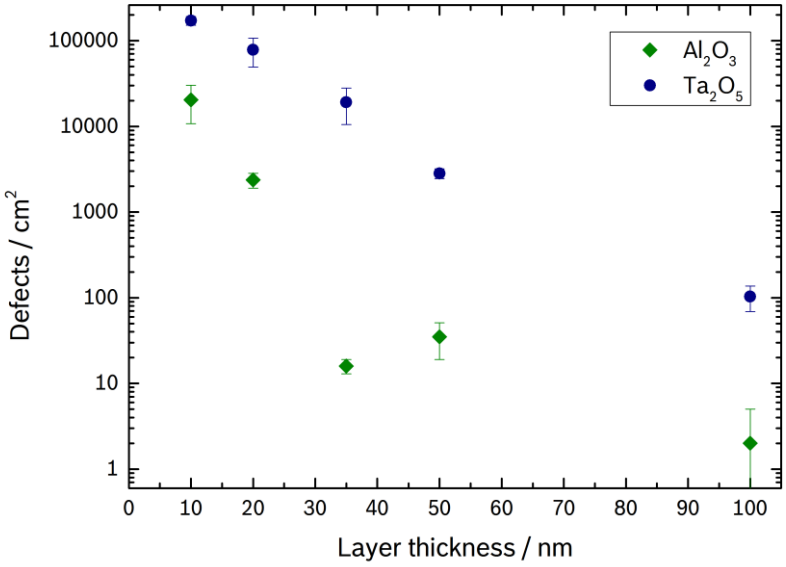


**Figure 1**. Number of defects per cm² plotted against the layer thickness of ALD $Al_2O_3$ and $Ta_2O_5$ on steel substrates. For thin coatings, the defect density shows an exponential decay with increasing coating thickness.

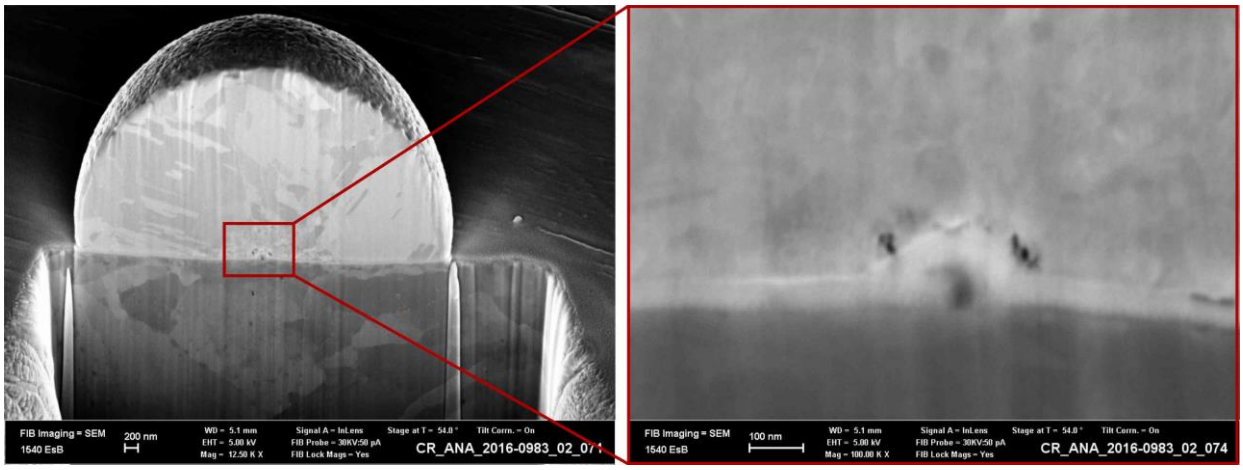


**Figure 2**. SEM cross section image of a focus ion beam milled copper bump (left) grown on 50 nm Ta2O5 on the steel substrate. In the center of the cupper bump, the pinhole defect in the ALD layer is expected. There, a protrusion on the steel substrate (right), probably a grain of dust, is visible.