

Fig 1: Bismuth ions and Lithium ions are applied alternately for 3D ion microscopy. Milling with Bi ions is used to ensure smooth and fast sputtering of the sample surface. High-resolution images acquired with Li primary ions between the milling steps can be combined to obtain a 3D reconstruction of the sample.

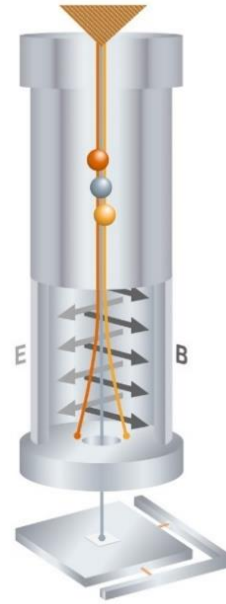


Fig 2: Setup of a top-down FIB equipped with a LMAIS source and a downstream Wien filter for fast ion switching combined with a high-precision laser interferometer stage.

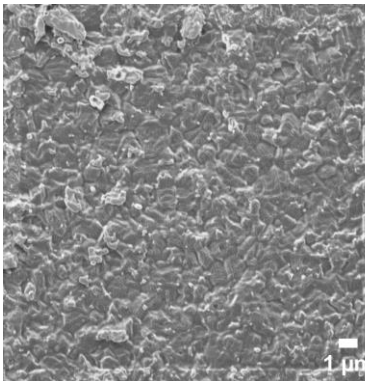


Fig 3a: CIGS – Copper Indium Gallium Selenide Solar Cell SE Signal.

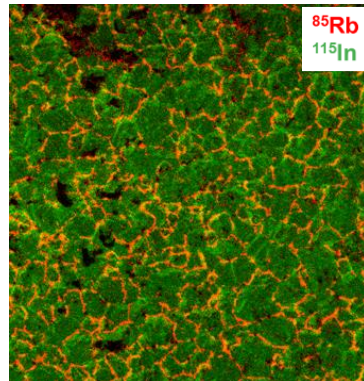


Fig 3b: SIMS image of the CIGS Solar Cell showing the secondary ion signal distribution of Rb and In. The Rb is located in the grain boundaries of the In grains.

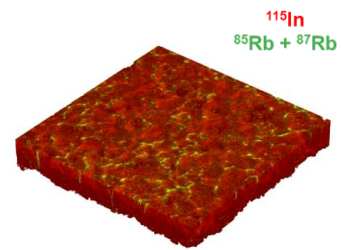


Fig 3c: 3-dimensional reconstruction of the In and Rb distribution.