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In-situ Characterization using JEOL TEMs

Building on the success of the JEM-ARM-200F, with more than 150 installations worldwide, JEOL recently introduced a new transmission electron microscope (TEM). Aiming for an optimal integration of modern aberration correctors, the JEM-ARM300F, or GRAND ARM, is JEOL's newest addition to its 300kV TEM line-up and comes with JEOL's own Cs-Correctors, is highly stable and guarantees a HAADF STEM resolution of up to 63pm. Furthermore, it is equipped with an optimized cold-field emission gun (cFEG), which routinely provides both a high beam brightness and high energy resolution, ideal for high resolution imaging as well as advanced EELS applications. In order to further improve the analytical capabilities of its TEMs JEOL launched an improved dual EDS system consisting of two 100mm² silicon drift detectors (SDD). This dual EDS system offers a large collection angle and significantly reduces the dependency on specimen tilt. Together with the advanced differential pumping system, the GRAND ARM is an ideal tool for in-situ characterization. Here we will present in-situ results, highlighting the analytical and in-situ capabilities of the GRAND ARM in combination with specialized in-situ holders from Protochips.

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