

Atomic Layer Deposition platform in Luxembourg – review of emerging applications for sensors, MEMS, energy harvesters, transparent electronics and coated powder for composites

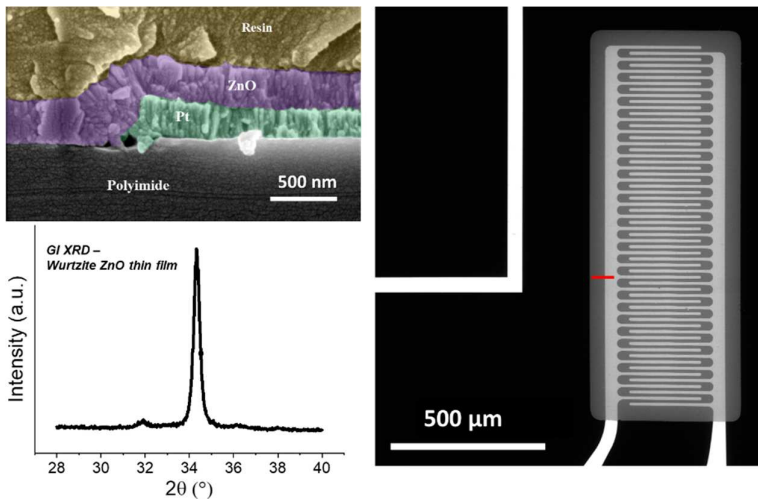


Figure 1 - Controlled of the wurtzite ZnO (002) orientation by thermal ALD on polymer and metal surfaces to obtain a strain sensor based on a diode junction. The SEM cross-section (left) detailed the red profile on the SEM top view micrograph (right) of the sensor microstructured in our cleanroom facilities (Courtesy: J. Polesel).

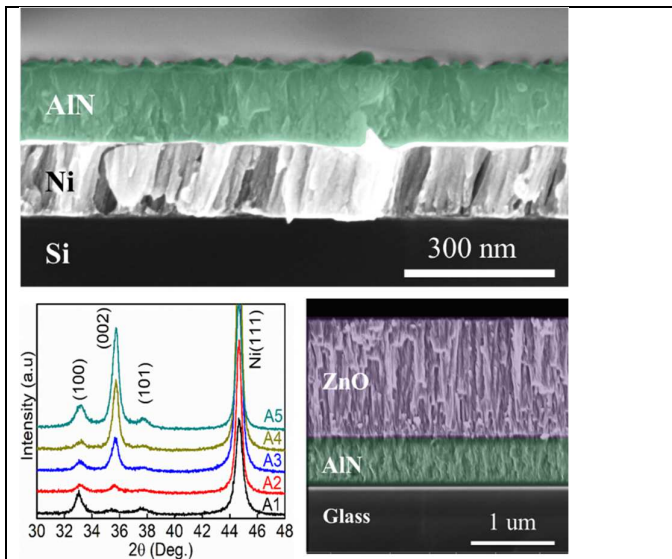


Figure 2 - A high quality piezoelectric AlN films deposited by PEALD energy harvesting application. The stacking of nickel ZnO AlN. (Courtesy: J. Polesel).

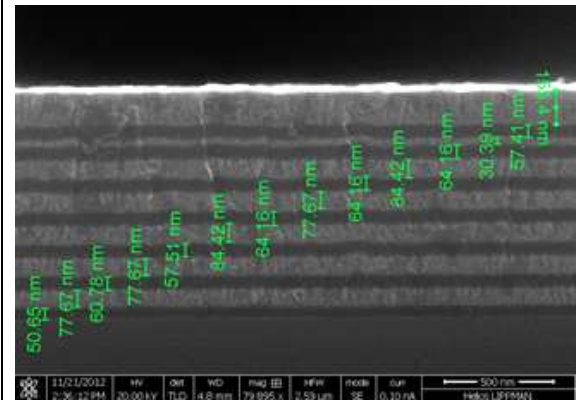


Figure 3 Example of multilayers of ZnO and Al₂O₃

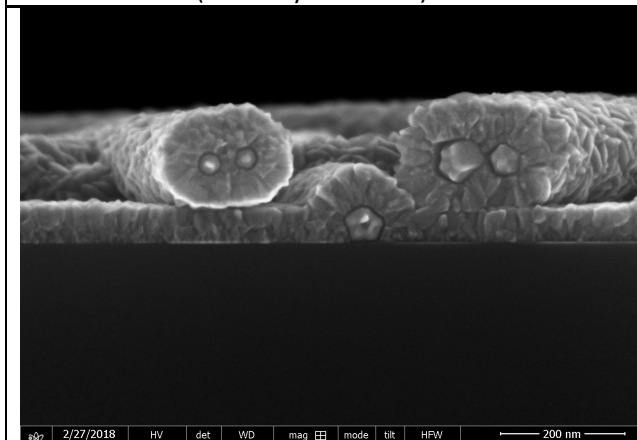


Figure 4 – Example of Ag nano wires covered with conformal ALD ZnO film

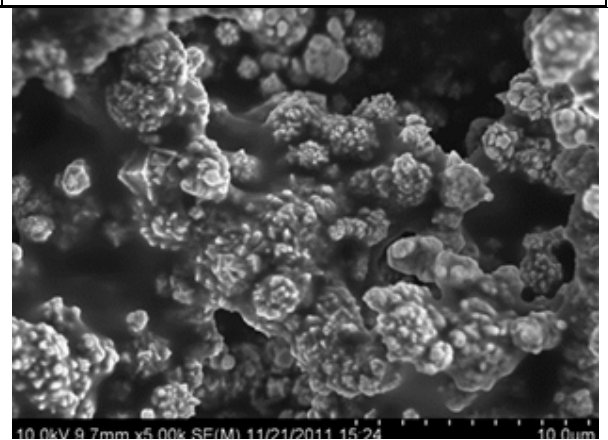


Figure 5 – Example of Ni powder coating by FBR for fillers into composite