

Fig. 1. XRD result for the evolution of the films according to the integration steps: after ALD deposition, after deposition of TiN/W top electrodes by CVD at 380°C and after annealing at 400°C for 1h.



Fig. 2. XPS result after SF<sub>6</sub> plasma etching of top electrode and annealing. The O 1s, Zr 3d and Hf 4f core level of the multilayer sample with a takeoff angle of 45°. Attempt characterization for V<sub>o</sub> detection (non-lattice oxygens).



Fig. 3. PUND-corrected P-E measured at  $10kHz \pm 4V HfO_2-ZrO_2$  multilayers integrated and annealed capacitors at  $400^{\circ}C$  for 1h. Cycling has been performed with a  $100kHz \pm 4V$  triangular signal.

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