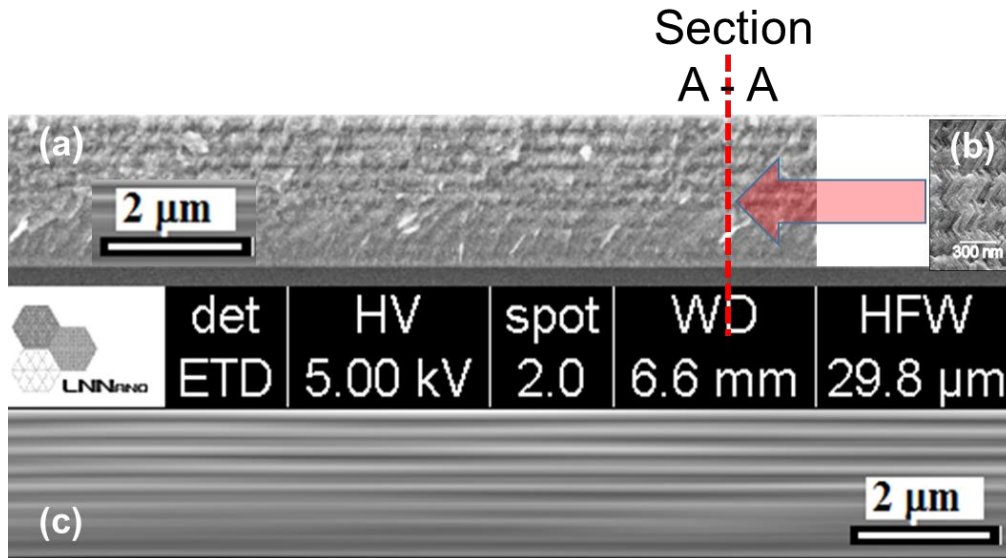


Supplemental Information



(a) SEM micrographs obtained from a cross-section of the CrN film *parallel* to the direction of the substrate oscillation deposited at constant oscillation frequency ($f \sim 10^{-3}$ Hz). The periodicity of the multi-structure corresponds to the frequency of the oscillation. (b) SEM cross section micrograph obtained from a cross-section *perpendicular* to the direction of the substrate oscillation of the same film (Section A-A, dashed red line). The zig-zag structure (angle, size, periodicity) is tailored controlling, among other deposition parameters, the substrate oscillation frequency. (c) Filtered 1D-FFT of the image (a) where the grooves are well identified.