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In-Situ Coherent Grazing Incidence Small Angle X-ray Scattering (Co-GISAXS) Studies of Surface Fluctuations of Sputter Deposited WSi_2 using X-ray Photon Correlation Spectroscopy (XPCS) SOM DAHAL, JEFFREY ULBRANDT, RANDALL HEADRICK, Department of Physics, University of Vermont, ALEXANDER DEMASI, KARL LUDWIG, Department of Physics, Boston University — We performed Coherent Grazing Incidence Small Angle X-ray Scattering (Co-GISAXS) studies of surface dynamics during magnetron sputtering deposited WSi_2 amorphous thin films. The local dynamics of surface fluctuations was studied by X-ray Photon Correlation Spectroscopy (XPCS) in the late time regime where the static GIXAXS stops evolving. Our studies reveal that the correlation time of the sputtered species varies as a power law with the in-plane momentum transfer. The experimentally obtained results are compared with predictions from continuum models of surface growth.

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