

**ATOM INTERFEROMETRY MEASUREMENTS OF
ATOM-SURFACE INTERACTIONS**

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Coherent atom optics techniques such as atom interferometry and atom diffraction with nanostructure gratings have been used to measure atom-surface interaction potentials in both the retarded and non-retarded regimes. I will survey these experiments and give several examples from work at the University of Arizona. I will also discuss the possibility of modifying van der Waals potentials by applying external (optical) electric fields.