

Abstract Submitted
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Development of a high-sensitivity torsion balance to study the Casimir/van der Waals interactions¹ WOO-JOONG KIM, Seattle University
— In this talk, we report on the development of a torsion balance currently underway at Seattle University. The completed torsion balance will enable us to explore the Casimir/van der Waals interactions between graphene sheets in a sphere-plane geometry. Particular experimental emphasis will be given on surface electric effects arising from real materials. As recently pointed in the literature, some of the previous Casimir force experiments conducted between a pair of metallic plates could have suffered from additional electric background forces. We will propose possible strategies to account for some of these background forces by employing Kelvin Probe Microscopy (KPM), thereby successfully extracting the fluctuation-induced interaction between layers of graphene.

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