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**Finite temperature quantum transport in nanosensors based on graphene nanoribbons**<sup>1</sup> KIRTI KANT PAULLA, AMIR FARAJIAN, Department of Mechanical and Materials Engineering, Wright State University — We study finite temperature quantum conductance of nanosensors based on graphene nanoribbons exposed to carbon and nitrogen oxides. Using ab-initio-based Green's function formalism, the quantum conductance of the nanoribbon with and without adsorbed oxide molecules is calculated. We investigate the effects of molecular vibrations and electron-vibron coupling on conductance modulation. The implication of the results concerning nanosensor functionality under desired environmental temperatures, and the differences with the low-temperature cases, are discussed

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- Prefer Oral Session  
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