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Low frequency noise in graphene[1] TRACY MOORE, DAVID TOBIAS, LIANG LI, University of Maryland, College Park, VINOD SANGWAN, MICHAEL FUHRER, ELLEN WILLIAMS, University of Maryland, College Park — Low frequency, 1/f noise is a poorly understood, commonly occurring phenomenon that is important for sensor technology. Hooge's empirical law describes 1/f noise in an overwhelming number of materials. We have measured 1/f noise in four probe configuration graphene transistors at temperatures ranging from 4 to 300 K. The power spectral density as a function of frequency is found to vary as a function of temperature and gate voltage. Measured 1/f noise will be discussed in terms of Hooge's law and alternative models.

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