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Nanometer Scale Microscopy via Graphene Plasmons XIAODONG ZENG, MOHAMMAD AL-AMRI, MOHAMMAD SUHAIL ZUBAIRY, Institute for Quantum Studies and Department of Physics and Astronomy, Texas A&M University — Using graphene plasmons (GPs), we can realize a nanometer scale microscopy. Our scheme takes advantage of the extremely large wave number of GPs and the low loss of graphene. Comparing with conventional nonlinear structured illumination microscopy basing on high order nonlinearity associated with high intensity light, our proposal only requires linear response. Consequently we need very weak field, which means less damage to the sample and may play a significantly important role in imaging of the biological systems.

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