

Abstract Submitted
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Large electric dipole moments and even-odd effects observed in Bi clusters. JOHN BOWLAN, ANTHONY LIANG, WALTER DE HEER, Georgia Institute of Technology — The electric and magnetic response of Bi_N ($N=1-40$) produced in a cryogenic molecular beam (15K-30K) shows that these clusters have large electric dipole moments as previously observed in ferroelectric Nb, V, and Ta clusters. The electric deflection profiles are measured as a function of size, field, and source temperature. Bi clusters exhibit the characteristic even-odd oscillations with even N showing an enhanced response. The clusters are paramagnetic but the odd- N clusters have enhanced susceptibilities. These results will be discussed and compared with other work done on low-dimensional bismuth nanostructures.

John Bowlan
Georgia Institute of Technology

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