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**Polarizability measurements of the alkalis using an atom interferometer** IVAN HROMADA, WILLIAM HOLMGREN, RAISA TRUBKO, JOSEPH RONAN, ALEXANDER CRONIN — We discuss our latest static DC polarizability measurements of the alkalis: Li through Cs. Our Mach-Zehnder atom interferometer uses nanogratings to diffract and recombine any atom or molecular beam. Because we use the same machine to measure polarizability of different atoms, we are able to report polarizability ratios (e.g.,  $\alpha_{Na}/\alpha_{Li}$ ) with 0.1% precision. To achieve this precision, we also describe a novel technique called phase chopping to measure the atom beam velocity with 0.05% precision.

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