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The Lithium Problem in Big Bang Nucleosynthesis[1]

MATTHEW VON HIPPEL, Stony Brook University — Big Bang Nucleosynthesis is one of the great success stories of cosmology, turning modern light element abundances into compelling evidence for a hot big bang. Advances in nuclear theory and determinations of the baryon/photon ratio from the cosmic microwave background have brought calculated light element abundances very close to their astronomically measured values in several cases. However, the measured Lithium/Hydrogen ratio lies significantly outside of the expected error of its theoretical value, indicating the influence of physics beyond the Standard Model. Sources of uncertainty in this discrepancy are discussed and ruled out, and the general type of new physics required is sketched.

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[X] Prefer Oral Session
[ ] Prefer Poster Session

Matthew von Hippel
matthew.vonhippel@stonybrook.edu
Stony Brook University

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