

Abstract Submitted
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The Strong and Weak Lithium Anomaly in BBN PATRICK BRUSKIEWICH, University of British Columbia, TACTIC COLLABORATION¹ — The measured abundance for ⁷Li is within a factor of two agreement with the standard Big Bang Nucleosynthesis (BBN) models, however for the more fragile ⁶Li, its abundance has been observed at a level three orders of magnitude above those predicted by standard BBN model. These discrepancies are known as the *Lithium Anomaly*. The standard BBN model predicts an abundance ratio for [⁷Li / ⁶Li] on the order of a 1000 or greater. Precise measurements of isotopic ratio indicate that [⁷Li / ⁶Li] \approx 12.3. This discrepancy is the *Strong Lithium Anomaly*. The measured abundance [⁷Li / ¹H] \approx (1.5 \pm 0.3) \times 10⁻¹⁰ is a factor of two lower than the abundance [⁷Li/¹H] \approx (3.82 \pm 0.70) \times 10⁻¹⁰ predicted by the standard BBN calculations, and this discrepancy is the *Weak Lithium Anomaly*. A quick review will be done of the reactions that have been included in the BBN calculations of Lithium-6 abundance. I will discuss an experiment to address the *Lithium Anomaly*, via the ⁷Li(³He, ⁴He)⁶Li reaction using the TACTIC detector at TRIUMF.

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