

VERY LOW UPPER LIMITS ON THE STRENGTH OF INTERSTELLAR LITHIUM LINES  
TOWARD SN 1987 A <sup>1</sup>

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**Abstract:** Seven CCD and eleven Reticon spectra of high spectral resolution and low noise have been carefully analysed in search for faint absorption lines due to neutral interstellar lithium  $\lambda$  6708 Å along the line of sight to SN 1987 A in the LMC. At the velocities of the strongest interstellar Ca II and Na I lines, no evidence of any interstellar feature has been found. An upper limit for the strongest components expected is 0.15 mÅ for both the Galaxy and the LMC. From these we infer elemental column densities  $N_{Galaxy} \leq 2.6 \times 10^{11} \text{ cm}^{-2}$  and  $N_{LMC} \leq 1.4 \times 10^{11} \text{ cm}^{-2}$  and gaseous elemental abundances  $(\text{Li}/\text{H I})_{Galaxy} \leq 7.7 \times 10^{-10}$  and  $(\text{Li}/\text{H I})_{LMC} \leq 1.0 \times 10^{-10}$  with an estimated uncertainty of the abundance limits of a factor of 4 (0.6 dex).

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<sup>1</sup>Based on observations collected at the European Southern Observatory, La Silla, Chile