

THE SEARCH FOR ${}^6\text{Li}$ IN ACTIVE LATE-TYPE STARS

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We have been investigating if ${}^6\text{Li}$ can be produced by spallation by stellar flares in accordance with model predictions. ${}^6\text{Li}$ enhancement has been unexpectedly found in several dwarf halo stars, for energetic solar events, and intriguingly during a flare for one chromospherically active binary. We observed a sample of EUV-selected active late-type stars with the VLT and UVES and found a $\frac{{}^6\text{Li}}{{}^7\text{Li}} = 0.03 \pm 0.01$ for active K dwarf GJ 117 (Christian et al. 2005). Other stars in our sample, GJ 182, EUVE J1145-53.5, and EUVE 2056-17.1 had lower signal-to-noise and larger rotational velocities, and only upper limits of a few percent were found for their ${}^6\text{Li}$ fraction. We recently confirmed the result for GJ 117 with high signal-to-noise (>1000) high spectral resolution observations taken with the McDonald Observatory's 2.7m. Our analysis has used PHOENIX model atmospheres code and we have taken care to include other lines that may effect the lithium line profile, such as Ti I. We have also recently expanded our sample with VLT UVES observations of two X-ray selected T Tauri stars and will present these results along with the other stars in our sample. We will discuss if the measured ${}^6\text{Li}$ in these objects is consistent with their activity levels and production in spallation reactions.