

${}^6\text{Li}$ IN THE ATMOSPHERES OF ACTIVE COOL STARS

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${}^6\text{Li}$ enhancement has been shown for energetic solar events, one chromospherically active binary, and several dwarf halo stars. We present high resolution VLT UVES observations of the active dwarfs GJ 117, EUVE J1145–53.5 and GJ182.

Our analysis of high resolution observations includes detailed modeling of the line formation in the 6808 Å region using the general stellar atmosphere code PHOENIX. We examine the contribution of other lines in the Li profile including Ti I lines which were proposed as an alternative explanation for the ${}^6\text{Li}$ enhancement.

Our principal results are:

i) detection of ${}^6\text{Li}$ on GJ117 with $\frac{{}^6\text{Li}}{7\text{Li}} = 0.030 \pm 0.007$

ii) detection of ${}^6\text{Li}$ on dK2e star EUVE J1145–53.5 with $\frac{{}^6\text{Li}}{7\text{Li}} = 0.10 \pm 0.01$,

iii) constraint of the ratio $\frac{{}^6\text{Li}}{7\text{Li}}$ to be ≤ 0.03 for dM0 GJ 182.

We discuss the possibility for ${}^6\text{Li}$ production by spallation and find it to be consistent with the activity of these objects.