A NEW ATLAS OF THE DIFFUSE INTERSTELLAR BANDS: HD 183143

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We present our second catalog[a] of the diffuse interstellar bands (DIBs), based on high signal-to-noise ratio echelle spectra of HD 183143 obtained at the Apache Point Observatory. This catalog complements our first catalog,[b] which was based on spectra of HD 204827. Unlike the sightline towards HD 204827, which hosts a high column density of C_2 and C_3, the sightline towards HD 183143 has no detectable amount of carbon chain molecules and therefore samples a somewhat chemically distinct environment.

Our catalog of HD 183143 contains 414 DIBs, of which 135 (or 33%) were not reported in four previous modern DIB surveys. When combined with our catalog of HD 204827, the total number of distinct DIBs observed is $\sim$545. Our collaboration's website at http://dibdata.org contains a complete listing of the properties of the observed DIBs in tabular format, PDF files containing the observed spectra, and an interactive spectral plotting tool that enables users to rescale the spectra. Our hope is that this dataset will facilitate the comparison of laboratory molecular spectra with the astronomical observations, and ultimately the identification of the molecular carriers of the DIBs.

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[a] L. M. Hobbs et al., Astrophysical Journal **705**, 32-45 (2009)
[b] L. M. Hobbs et al., Astrophysical Journal **680**, 1256-1270 (2008)