# A PRIMER ON DUNHAM'S APPROACH TO ANALYSIS OF SPECTRA OF FREE DIATOMIC MOLECULES

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Although long recognised to be one of the most important articles ever published in relation to discrete spectra of diatomic molecules, Dunham's paper[a] in Physical Review 1932 seems to be poorly understood and much less read than cited. We review principal ideas underlying both Dunham's work and its extension[b] by van Vleck, plus important advances based on recognition[c,d] of the rotational $g$ factor.

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[a] J. L. Dunham, *Physical Review*, **41**, 721–729 (1932)
[b] J. H. van Vleck, *Journal of Chemical Physics*, **4** (6), 327–328 (1936)
[c] J. F. Ogilvie, J. Oddershede and S. P. A. Sauer, *Advances in Chemical Physics* **111**, 475–535 (2000)
[d] J. F. Ogilvie, *The Vibrational and Rotational Spectrometry of Diatomic Molecules* [Academic Press, London U.K., 1998]