

HIGH RESOLUTION SPECTRUM FOR THE $A^1\Sigma_u^+-X^1\Sigma_g^+$ SYSTEM OF LITHIUM ISOTOPOMERS

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On combining our over 40 vibrational bands for the $A^1\Sigma_u^+-X^1\Sigma_g^+$ system of ${}^6\text{Li}_2$ and ${}^{6,7}\text{Li}_2$ sub-Doppler polarization spectrum with literature data from the Fourier transform spectrum of this system for ${}^7\text{Li}_2$,^a we have determined a new set of Le Roy - type molecular constants,^b which include mass-reduced Dunham constants and Born-Oppenheimer and JWKB breakdown (BOB) correction terms, describing these two electronic states of all three isotopomers. The preliminary results indicate that the BOB corrections are not significant for the $X^1\Sigma_g^+$ state, but *are* significant for $A^1\Sigma_u^+$ state.

^aLinh D. Le and R.A. Bernheim, "Atlas of the Absorption Spectrum of ${}^6\text{Li}_2$ and ${}^7\text{Li}_2$."

^bR.J. Le Roy, paper FB09 at the "52nd Ohio State University International Symposium on Molecular Spectroscopy", Columbus, Ohio (1997); manuscript in preparation.