

## SPECTROSCOPY AND PREDISSOCIATION DYNAMICS OF THE $\text{Li}_2 \text{F}^1\Sigma_g^+$ STATE

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**Rovibrational levels within the top 30% of the potential well of the  $\text{F}^1\Sigma_g^+$  state in all three isotopic dimers have been observed to predissociate. The predissociation rate is the smallest for the  $^6\text{Li}_2$  dimer. These levels were completely absent from the Optical-Optical Double Resonance (OODR) excitation spectrum when molecular side fluorescence or ionization signal was monitored. They were observed by atomic fluorescence detection.**

We report on the isotopic, vibrational and rotational dependence of the linewidth as well as pressure and power dependence studies.

The complete potential energy curve has been calculated from experimentally determined  $G(v)$  and  $B(v)$  functions.