HYPERFINE STRUCTURE OF THE $B\,^2\Sigma^+ - X\,^2\Sigma^+$ TRANSITION OF LaS

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High-resolution spectra of the $B\,^2\Sigma^+$ - $X\,^2\Sigma^+$ (0,0) transition of LaS, near 13770 cm^{-1}, have been observed under jet-cooled conditions, following the reaction of laser ablated lanthanum metal with CS_2. With a linewidth of about 45 MHz, the hyperfine structure of LaS is well resolved. The ground state, $X\,^2\Sigma^+$, conforms to case $b_{\beta s}$ coupling scheme, however, the upper state, $B\,^2\Sigma^+$, is more appropriate to be described by case $b_{\beta J}$ coupling scheme. Accurate molecular parameters for both the $B\,^2\Sigma^+$ and $X\,^2\Sigma^+$ will be reported.