THE $B^{3\Sigma_u^+} \leftarrow b^{1\Sigma_g^+}$ TRANSITION OF MOLECULAR OXYGEN

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The origin of the intensity of the $B^{3\Sigma_u^+} \leftarrow b^{1\Sigma_g^+}$ transition of molecular oxygen, first observed recently by Eppink et al. [J. Chem. Phys. 108, 1305 (1998).], is discussed. It is shown that the $B \leftarrow b$ transition borrows its intensity principally from the dipole-allowed $B \leftarrow X$ transition, through spin-orbit mixing between the $X^{3\Sigma_g^-}$ and $b^{1\Sigma_g^+}$ states. Estimated continuum photoabsorption cross sections and discrete oscillator strengths for the $B \leftarrow b$ system are presented.