Zirconia (ZrO$_2$) is an important material with applications in microelectronics, catalysis, and ceramics. Previously the photoelectron spectrum$^{a,b}$ of the ZrO$_2$ anion and the pure rotation spectrum of the neutral$^c$ have been recorded and analyzed. Here we present the first observation of the visible spectrum of ZrO$_2$ via laser induced fluorescence (LIF) and resonance enhanced multi-photon ionization (REMPI). The LIF spectrum was recorded between 17000-18900 cm$^{-1}$ at a resolution of 0.2 cm$^{-1}$ using pulsed dye laser excitation and tentatively analyzed to give harmonic vibrational parameters $\omega_1$, $\omega_2$, and $\omega_3$ for the $\tilde{A}^3B_2$ state of 495(1) cm$^{-1}$, 150(3) cm$^{-1}$ and 1045(4) cm$^{-1}$, respectively. Dispersed fluorescence spectra of thirteen bands were recorded and analyzed to give harmonic vibrational parameters $\omega_1$, $\omega_2$, and $\omega_3$ for the $X^1A_1$ state of 898 (1) cm$^{-1}$, 287(3) cm$^{-1}$ and 808(4) cm$^{-1}$, respectively. The radiative lifetimes of numerous bands have been measured and analyzed. Franck-Condon factors were calculated and used to model the REMPI and excitation spectra. A comparison with TiO$_2$ is made$^d$.

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