

substance: V₂O₅

property: energy gap

E_g	2.17 eV	$E \parallel c$	see also the spectra shown in the document on optical properties:	76V
	2.34 eV	$E \parallel c$		66K
	2.25 eV	$E \parallel c$		73M
	2.19 eV	$E \parallel b$		76V
	2.363 eV	$E \parallel b$		66K
	2.23 eV	$E \parallel a$		73M

According to [66K, 67B] the edge is direct and forbidden. Diffuse reflectance spectra [71K] give $E_g = 2.31$ eV at RT but band edge determined to be direct and allowed.

temperature dependence of energy gap

dE_g/dT	$-6.1 \cdot 10^{-4} \text{ eV K}^{-1}$	$E \parallel c$	$E_g(T \rightarrow 0) = 2.49 \text{ eV}$	67B
	$-7.3 \cdot 10^{-4} \text{ eV K}^{-1}$	$E \perp c$	$E_g(T \rightarrow 0) = 2.54 \text{ eV}$	

References:

- 66K Kenay, N., Kannewurf, O. R., Whitmore, D. H.: J. Phys. Chem. Solids 27 (1966) 1237.
- 67B Bodó, Z., Hevesi, I.: Phys. Status Solidi 20 (1967) K45.
- 71K Karvaly, B., Hevesi, I.: Z. Naturforsch. Teil A 26 (1971) 245.
- 73M Mokerov, V. G.: Fiz. Tverd. Tela 15 (1973) 2393.
- 76V Volzhenski, D. S., Grin', V. A., Savitskii, V. G.: Kristallografiya 21 (1976) 1238.