

**substance: hematite ( $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>)**

**property: peak energies in optical spectra**

$E_{\text{peak}}$	2.27...2.30 eV	specular	assignment: d-d	79G
	2.83 eV	reflectance	d-d + "2-exciton"	
	3.10 eV	from		
	3.97 eV	hexagonal		
	4.71 eV	plate at RT		
	5.39 eV		charge-transfer	
	11.07 eV		interband transitions	
	16.75 eV			
	1.46 eV	absorption		63G
	2.38 eV	spectrum		
	3.16 eV	of poly-		
	3.93 eV	crystalline		
	4.84 eV	film at RT		
	5.75 eV			
	0.7 eV	absorption	strongly enhanced by Ti doping	54M
	1.5 eV	of polycrystalline		
		films at RT		
	1.49 eV	absorption	d-d (broad reflectivity peaks	60B
	1.98 eV	of (111)	d-d found at 24500 and	
		crystal sections	26000 cm <sup>-1</sup>	
		at RT		
	1.44 eV	peaks in diffuse	d-d: ${}^6A_{1g} - {}^4T_{1g}$	70T
	2.67 eV	reflectance	d-d: ${}^6A_{1g} - {}^4A_{1g}$	
		spectrum at RT		
	1.44(3) eV	absorption	d-d: ${}^6A_{1g} - {}^4T_{1g}$	79M
	2.16 eV	of single crystal	d-d: ${}^6A_{1g} - {}^4E_g$	
		platelets,		
		light incident		
		along <i>c</i> -axis		
		(RT values)		
	2.92 eV	wavelength	d-d: ${}^6A_{1g} - {}^4T_{2g}$	74B
	3.37 eV	modulated	charge transfer	
	3.97 eV	spectrum from		
	4.38 eV	unoriented		
	5.01 eV	single crystal		
		at RT		
	1.52 eV	absorption	d-d: ${}^6A_{1g} - {}^4T_{1g}$	78M
	2.024 eV		d-d: ${}^6A_{1g} - {}^4T_{2g}$ superimposed	
			on a rising background	
	2.61 eV	diffuse	assignment: d-d	74T
	2.98 eV	reflectance	d-d	
	3.14 eV	at RT	$t_{1u} - t_{2g}$ , charge transfer	
	3.64 eV		$t_{2u} - t_{2g}$	
	4.43 eV		$t_{1g} - e_g$	
	5.29 eV		$t_{1u} - e_g$	

2.67 eV	diffuse	d– d	70T
3.57 eV	reflectance	charge transfer	
4.27 eV	at RT	charge transfer	
5.37 eV		charge transfer	
7.5 eV	EEL	assignment: d–s	75B,
24.0(5) eV		3d – 4p [75D] or	75D
		plasma peak [75B]	

## References:

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