

Physics 601 – Fall 2007

Electron states: Where to find it in Kaxiras

Topic in my lectures	Location in text
Bloch's theorem, k-space, Brillouin zone	Kaxiras 3.1-2
Rotational and Kramers symmetry; reduction of BZ to IBZ	Kaxiras 3.5-7
General features of band structures	
Density of states	Kaxiras 5.1
Nearly-free electron approximation	Kaxiras 3.2
Tight binding approximation (introduction)	Kaxiras 4.1
Group velocity and effective mass	Kaxiras 3.3
Survey of band structures of some common crystals	Kaxiras 4.3
Methods of computing band structures	
Tight binding (revisited in more depth)	Kaxiras 4.1
Plane waves, pseudopotentials, and other methods	Kaxiras 4.2