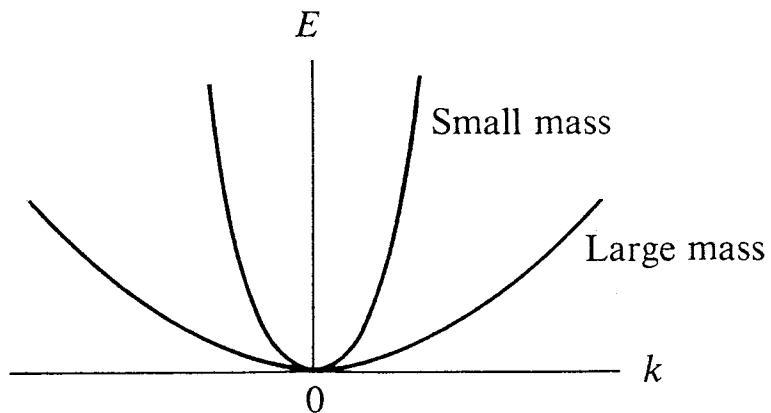
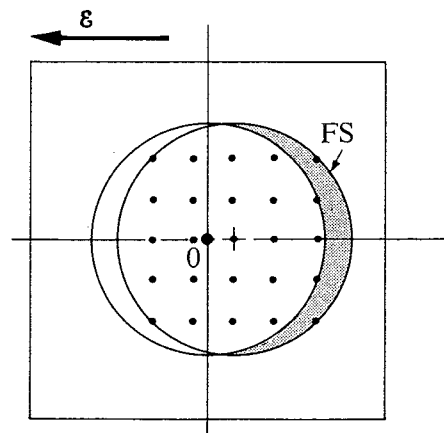
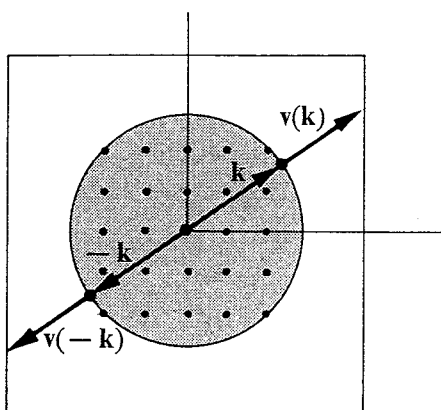




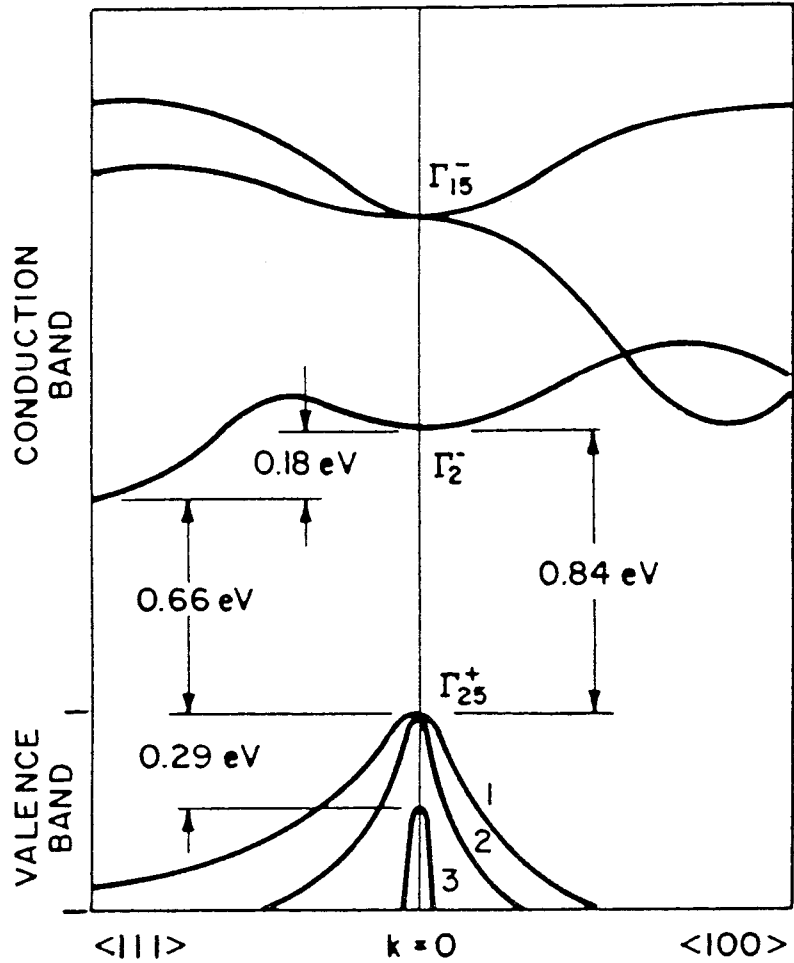
Free Electron Model



$$m^* = \hbar^2 \left/ \left(\frac{d^2 E}{dk^2} \right) \right.$$

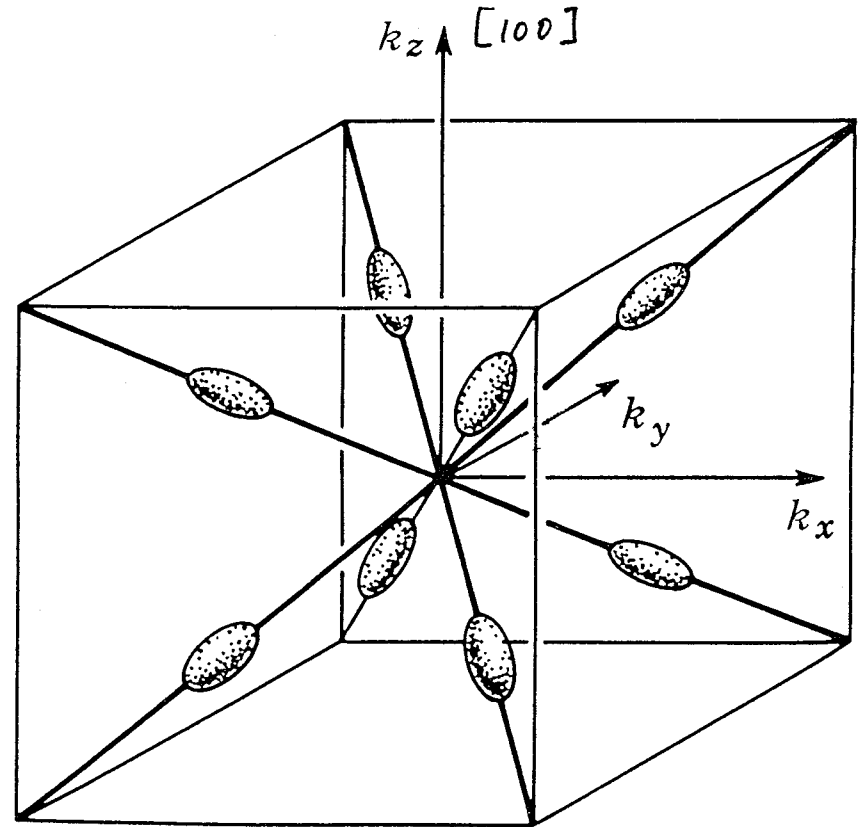


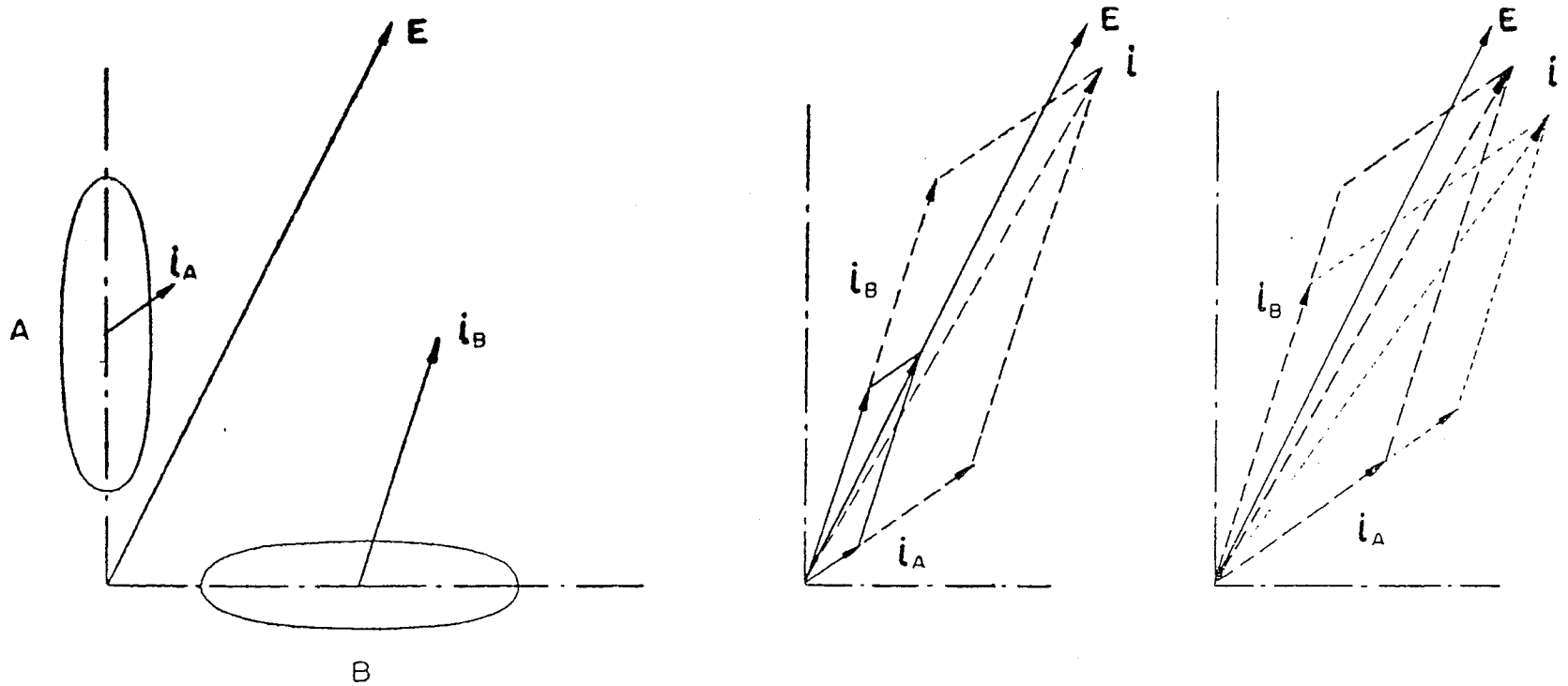
Ge Band Structure



$$m_l = 1.59 m_0$$

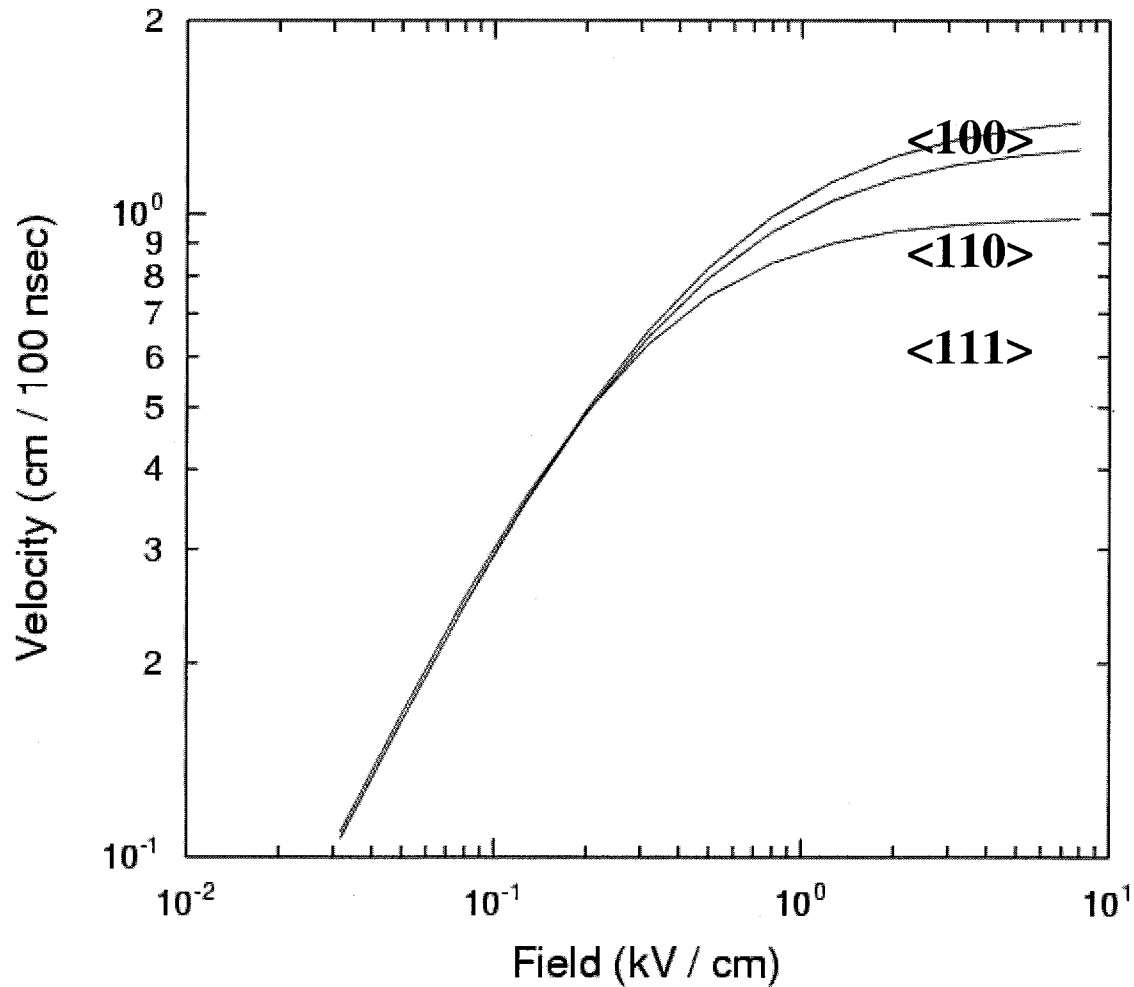
$$m_t = 0.082 m_0$$

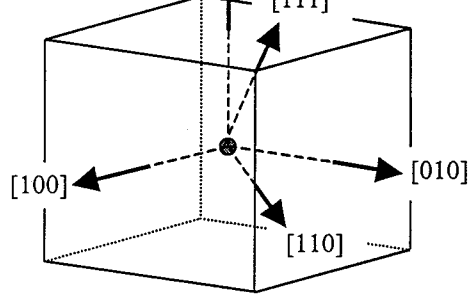




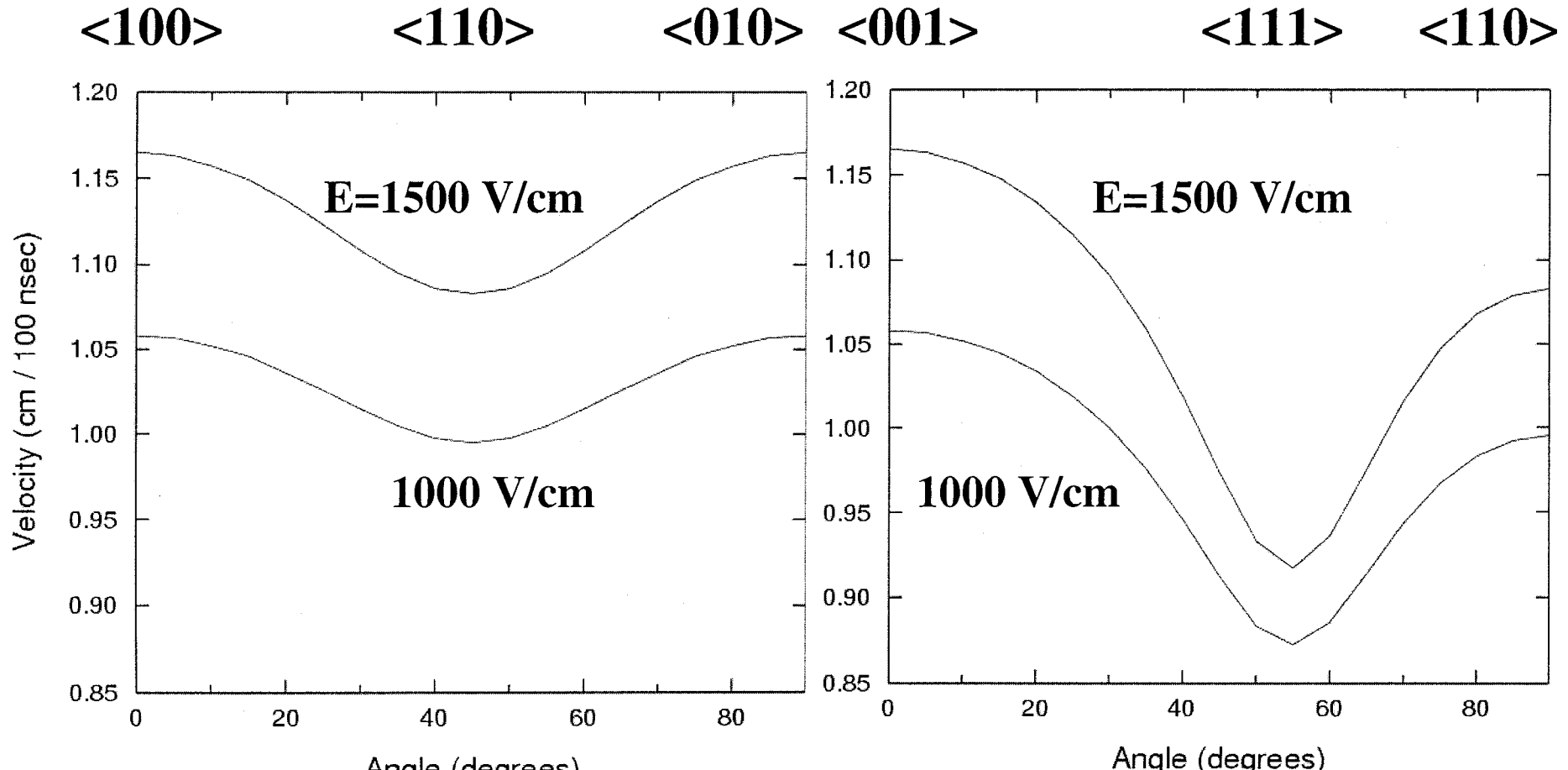
W. Sasaki, et. al., J. Phys. Soc. Japan, vol. 13, no. 5, p.456 (1958)

Electron drift velocity in Ge

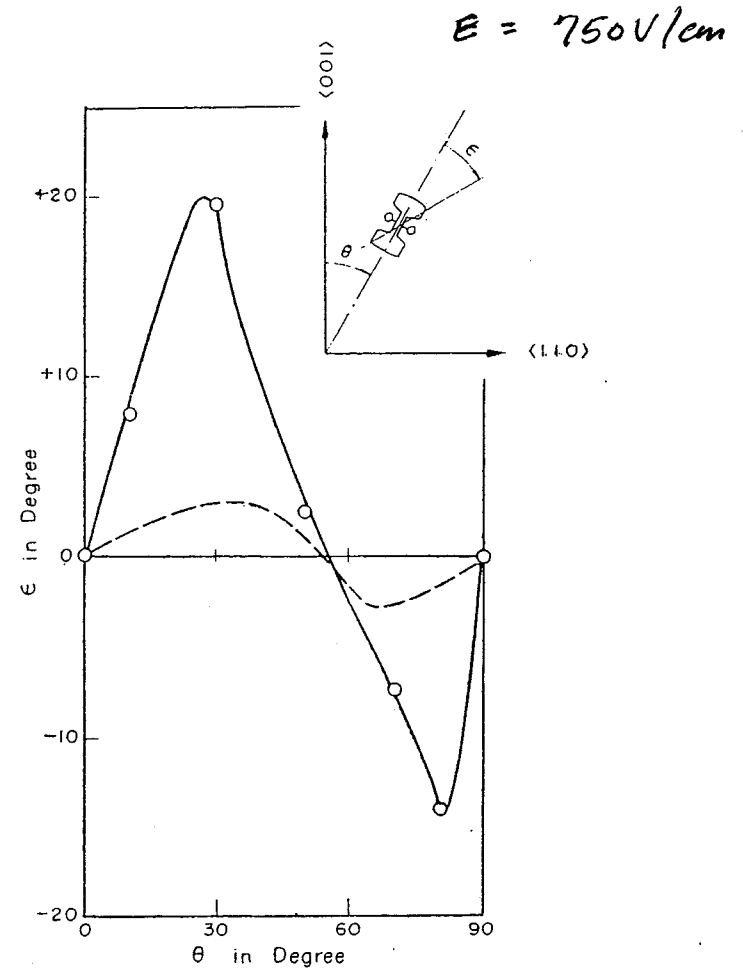
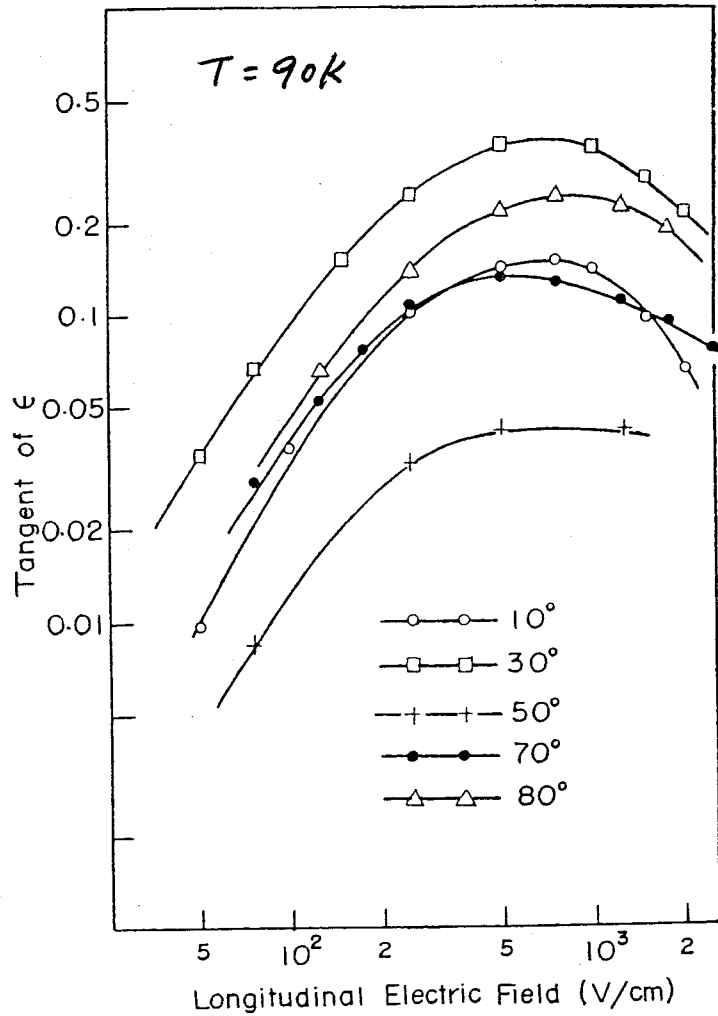




Anisotropy of electron velocity

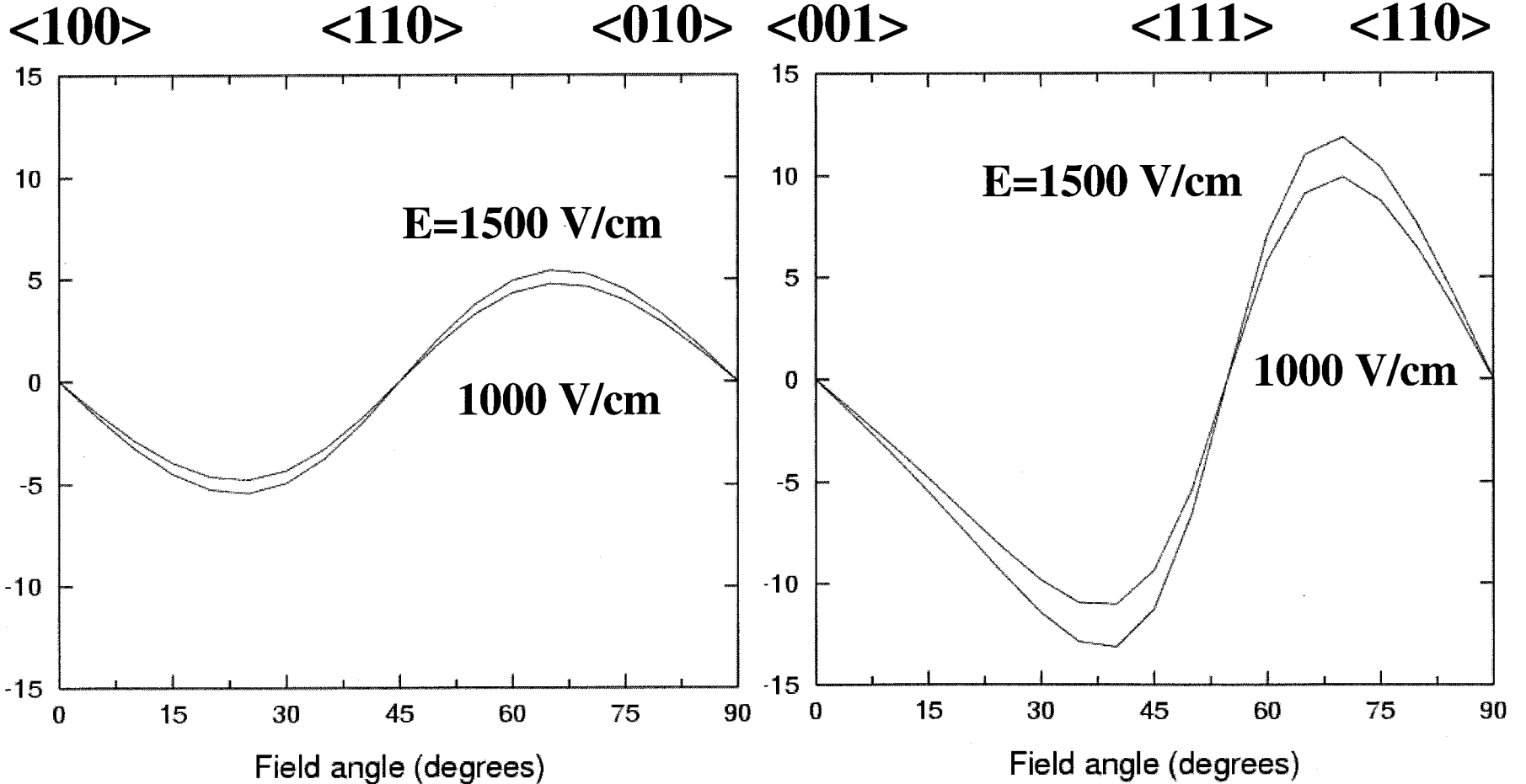


Anisotropic Electron Transport



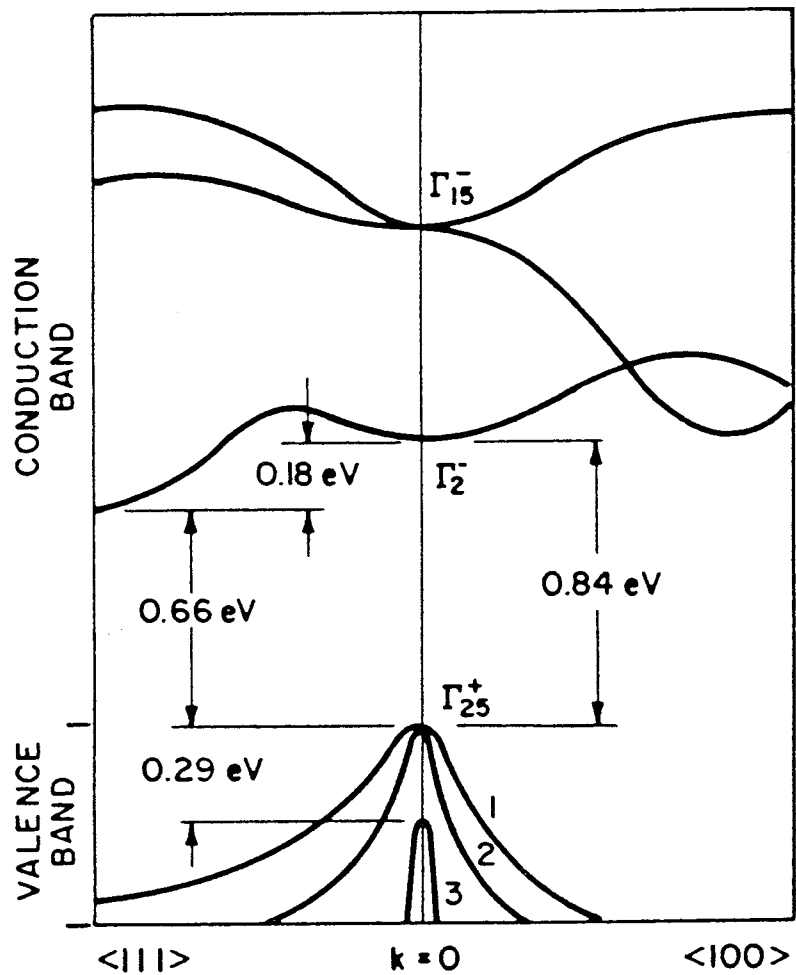
W. Sasaki, et. al., J. Phys. Soc. Japan, vol. 13, no. 5, p.456 (1958)

Anisotropy of electron direction

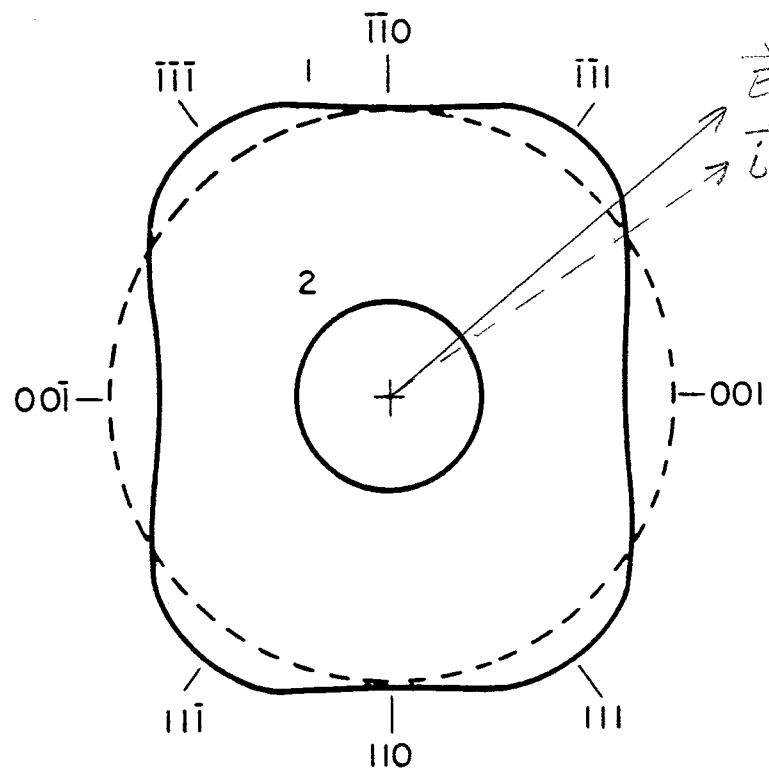




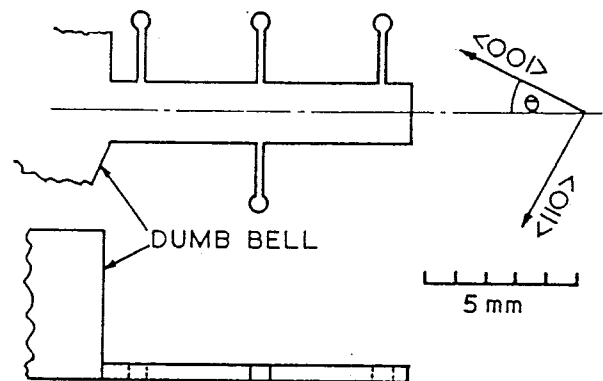
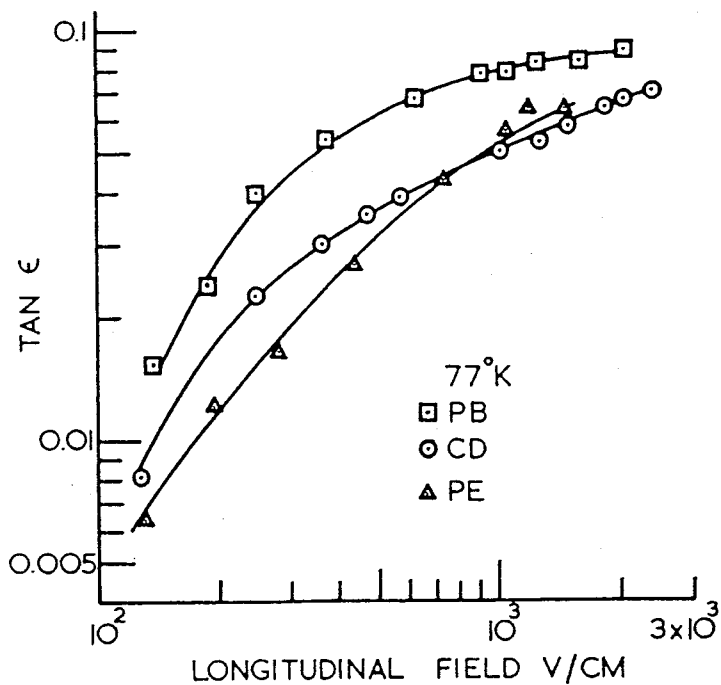
Ge Band Structure



m_{hh} : [111] 0.50 m_0
 [100] 0.21 m_0
 [110] 0.38 m_0



Anisotropic Hole Transport



Specimen	Acceptor concentration (cm^{-3})	Donor concentration (cm^{-3})	θ (see Fig. 1)
PB	3.0×10^{14}	...	30°
CD	1.6×10^{15}	9.0×10^{14}	30°
PE	3.2×10^{15}	...	26°

W. E. K. Gibbs, J. Appl. Phys., vol. 33, p.3369 (1962)