

Figure 7.1: Illustration of the dot-product functional  $\phi_a[r] = \mathbf{a} \cdot \mathbf{r}$ .

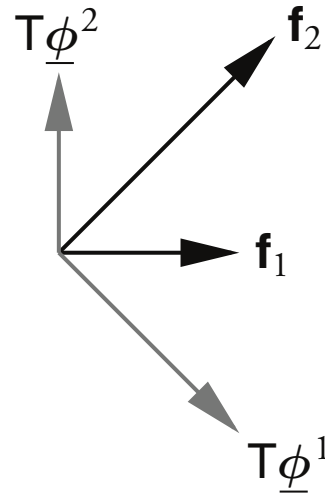


Figure 7.2: A basis  $\{\mathbf{f}_1, \mathbf{f}_2\}$  of  $\mathbb{R}^2$  and its reciprocal basis.

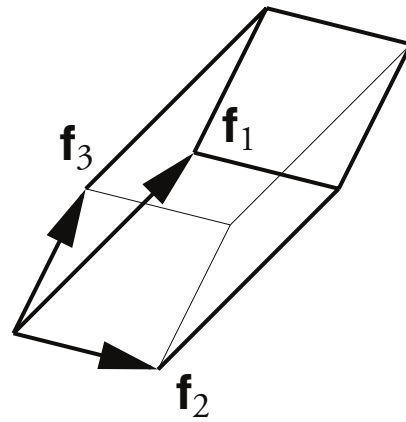


Figure 7.3: The unit cell defined by  $\mathbf{f}_1$ ,  $\mathbf{f}_2$ ,  $\mathbf{f}_3$ .

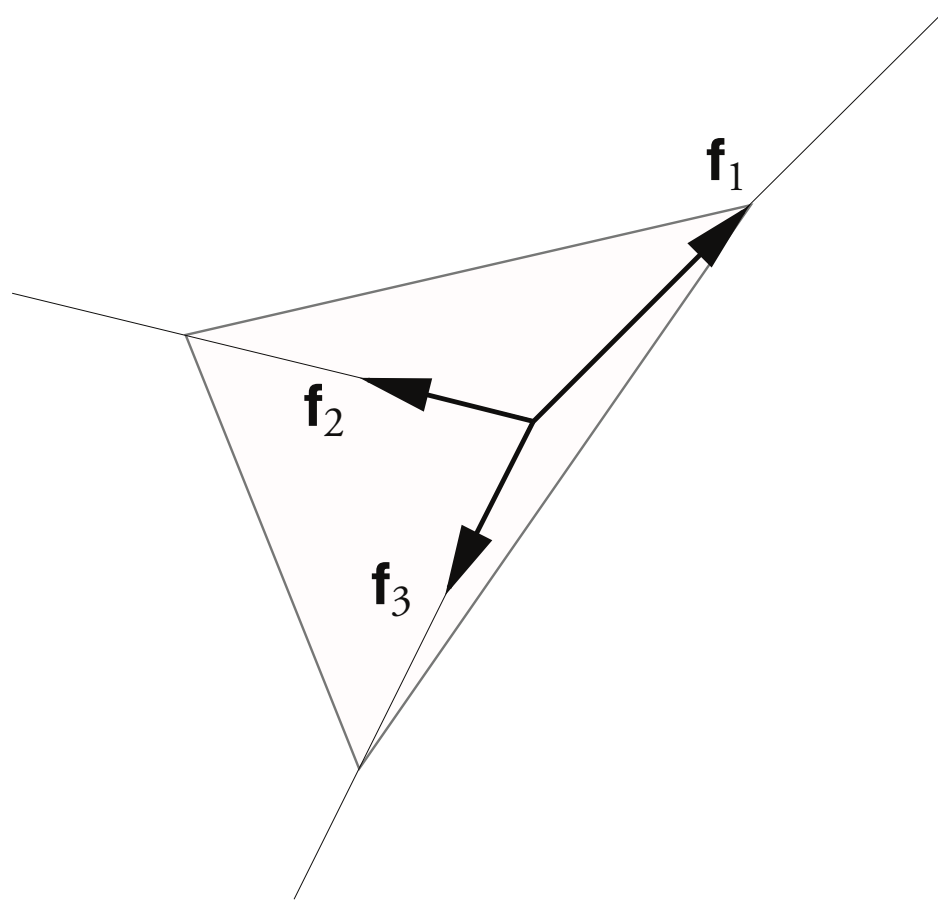


Figure 7.4: The (122) lattice plane,  $\mathbf{r}_{100} + \mathcal{W}_{(122)}$ .

$$g_M(x) = \frac{\sin[(M + \frac{1}{2})x]}{\sin(\frac{1}{2}x)}$$

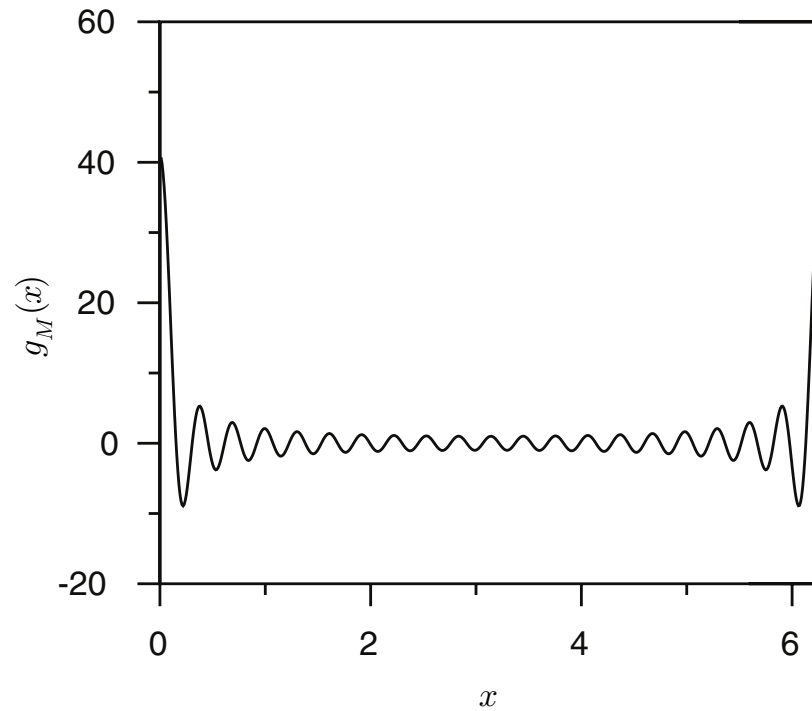


Figure 7.5: The function  $\sin[(M + \frac{1}{2})x] / \sin(\frac{1}{2}x)$  plotted for  $M = 20$ .

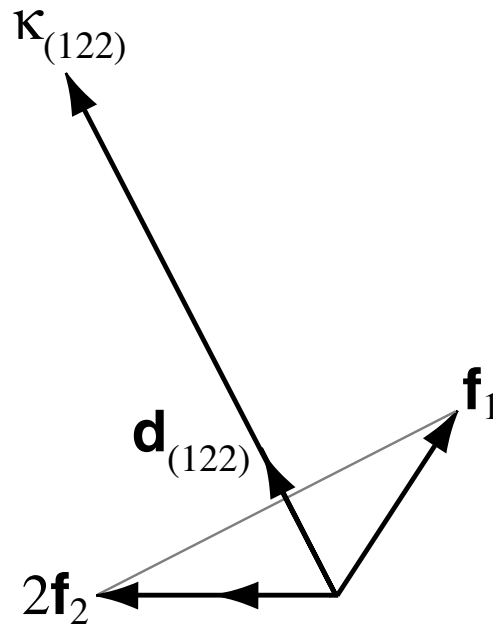


Figure 7.6: The reciprocal-lattice vector  $\boldsymbol{\kappa}_{(122)} := 4\mathbb{T}\underline{\phi}_1 + 2\mathbb{T}\underline{\phi}_2 + 2\mathbb{T}\underline{\phi}_3$  is perpendicular to the (122) lattice plane.