$$\frac{\partial}{\partial x}\frac{1}{c_1}vZf_1(x,H)\gamma_{1,0,1} = 0$$

$c_1$, v, Z and $\gamma_{1,0,1}$ are independent from x.

Therefore,

$$f_1(x,H) = \frac{c_1}{vZ\gamma_{1,0,1}}A$$

A is constant.

$$vZ\frac{\partial}{\partial x}\frac{1}{c_1}f_0(x,H)\gamma_{0,1,1} = -Z\frac{f_1(x,H)}{\tau}$$

$$f_0(x,H) = \frac{{c_1}^2}{\tau v^2 Z\gamma_{1,0,1}\gamma_{0,1,1}}Bx + C$$

B and C are constant

We can calculate $\gamma_{1,0,1}$, $\gamma_{0,1,1}$ and $c_1$.

$$\gamma_{1,0,1} = \gamma_{0,1,1} = \frac{1}{\sqrt{2\pi}}$$

$$c_1 = \frac{1}{\sqrt{\pi}}$$

Finally,

$$f_0(x,H) = \frac{2}{\tau v^2 Z}Bx + C$$

$$f_1(x,H) = \frac{\sqrt{2}}{vZ}A$$

**Graphene**

$$\mathrm{Z} = \frac{1}{(2\pi)^2}\frac{\varepsilon}{(\hbar v_F)^2}$$

$$f_0(x,H) = \frac{8\hbar^2\pi^2}{\varepsilon\tau}Bx + C$$

$$f_1(x,H) = \frac{4\sqrt{2}\pi^2\hbar^2 v_F}{\varepsilon}A$$

**Parabolic**

$$\mathrm{Z} = \frac{1}{(2\pi)^2}\frac{m}{\hbar^2}$$

$$f_0(x, H) = \frac{8\hbar^2\pi^2}{mv^2\tau}Bx + C = \frac{4\hbar^2\pi^2}{\varepsilon\tau}Bx + C$$

$$f_1(x, H) = \frac{4\sqrt{2}\pi^2\hbar^2}{mv}A = \frac{4\sqrt{2}\pi^2\hbar}{k}A = \frac{4\pi^2\hbar^2}{\sqrt{m\varepsilon}}A$$