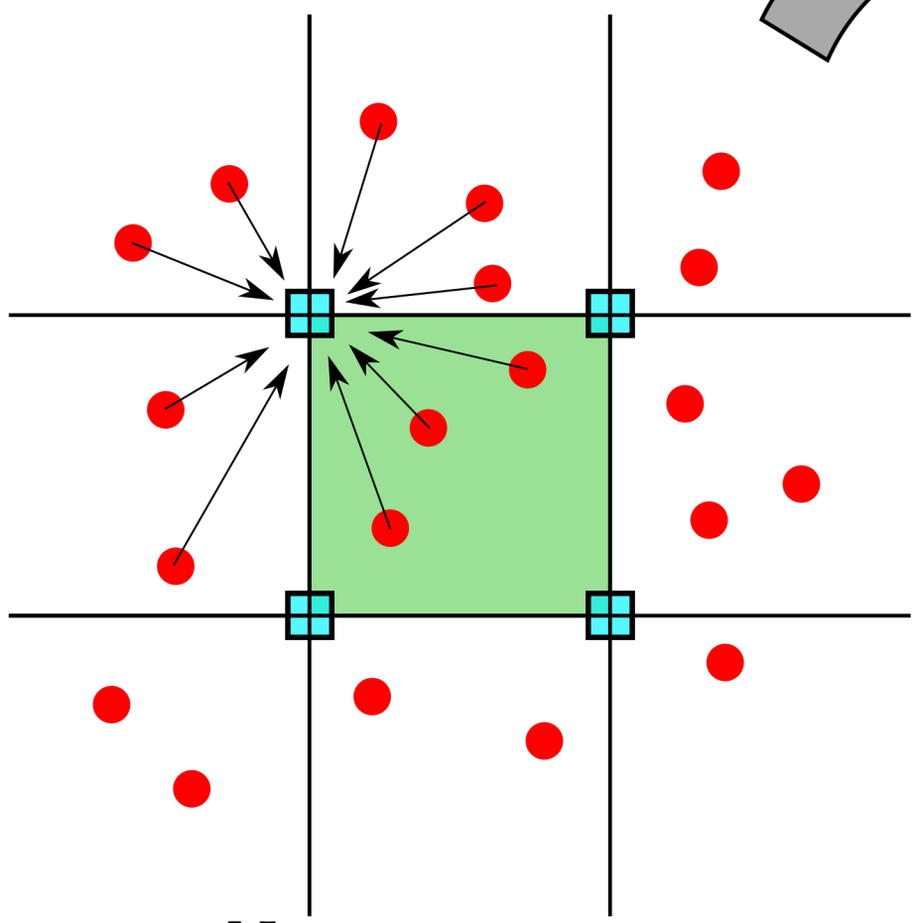
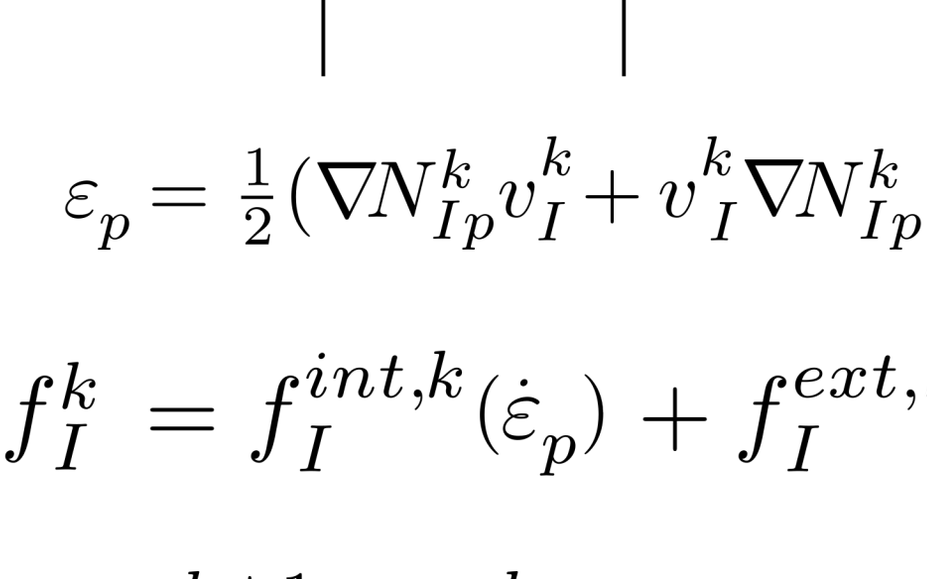


$$m_I^k = \sum_p^{N_p} m_p N_{Ip}^k$$

$$p_I^k = \sum_p^{N_p} m_p v_p^k N_{Ip}^k$$

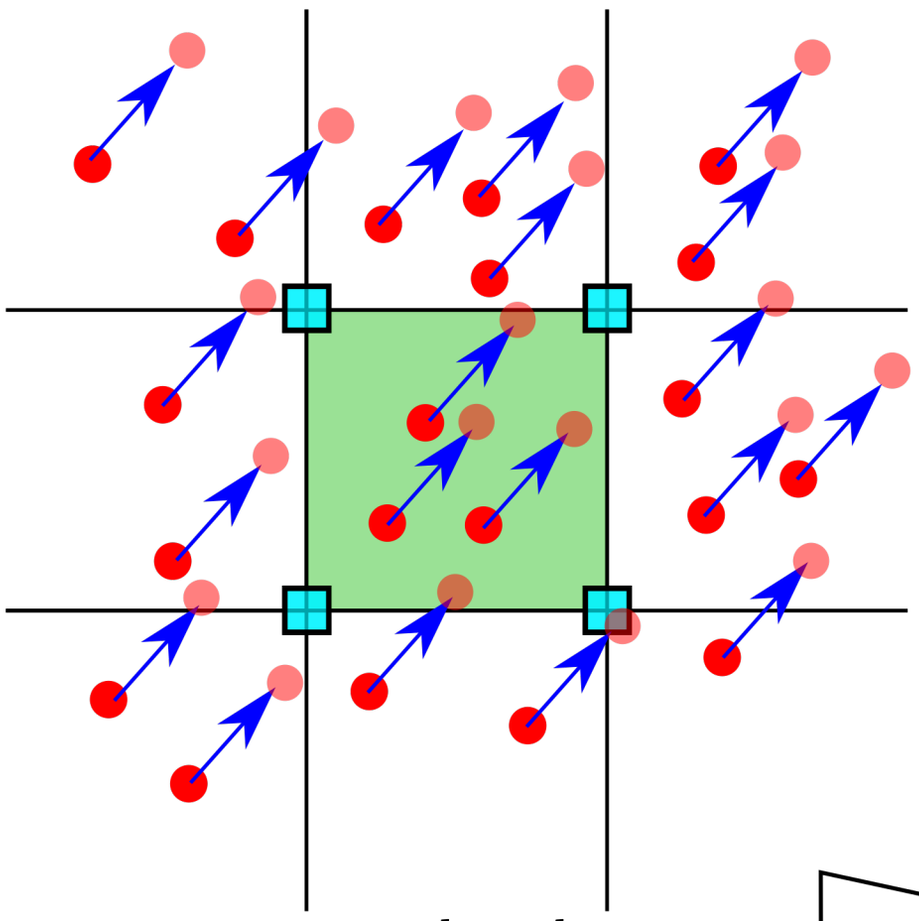
$$v_I^k = \frac{p_I^k}{m_I^k}$$



$$\varepsilon_p = \tfrac{1}{2}(\nabla N_{Ip}^k v_I^k + v_I^k \nabla N_{Ip}^k)$$

$$f_I^k = f_I^{int,k}(\dot{\varepsilon}_p) + f_I^{ext,k}$$

$$p_I^{k+1} = p_I^k + f_I^k \Delta t$$



$$v_p^{k+1} = v_p^k + \sum_I^{N_e} \frac{f_I^k N_{Ip}^k}{m_I^k} \Delta t$$

$$x_p^{k+1} = x_p^k + \sum_I^{N_e} \frac{p_I^{k+1} N_{Ip}^k}{m_I^k} \Delta t$$