

```
1: while iteration  $\neq$  max_iteration do  
2:   Generate keys + sort + exchange particles  
3:   1. Exchange branches  
4:   2. Compute Ghosts in buffer  
5:   3. Exchange Ghosts  
6:    $\rho, P, c_s, \dots$   
7:   3. Exchange Ghosts  
8:    $f_{hydro}, f_{visc}, \frac{du}{dt}, \dots$   
9:   Integration, move particles  
10:  Output  
11: end while
```