

# PSO smart Warp:

if particle becomes  
STUCK in a minimum,  
WARP to area w/ low  
particle density

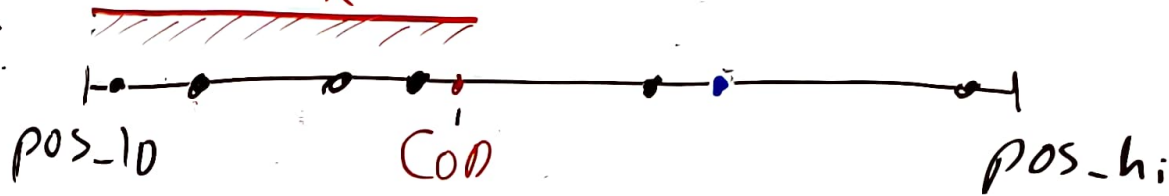
## Neighbor Method:

A particle's NEIGHBORHOOD  
COHESION factor

—  $\vec{d}_{i,n}$  = distance vector from particle  $i$   
to particle  $n$  IN NEIGHBORHOOD

—  $CF = \frac{1}{\sum_n |\vec{d}_{i,n}|}$  (Cohesion factor; Larger  $\Rightarrow$  tightly packed neighborhood)

1D:



AVG-Metho:

CoV (center of distrib.) = avg(particle position)

$R \equiv$  h: density region

2D:

