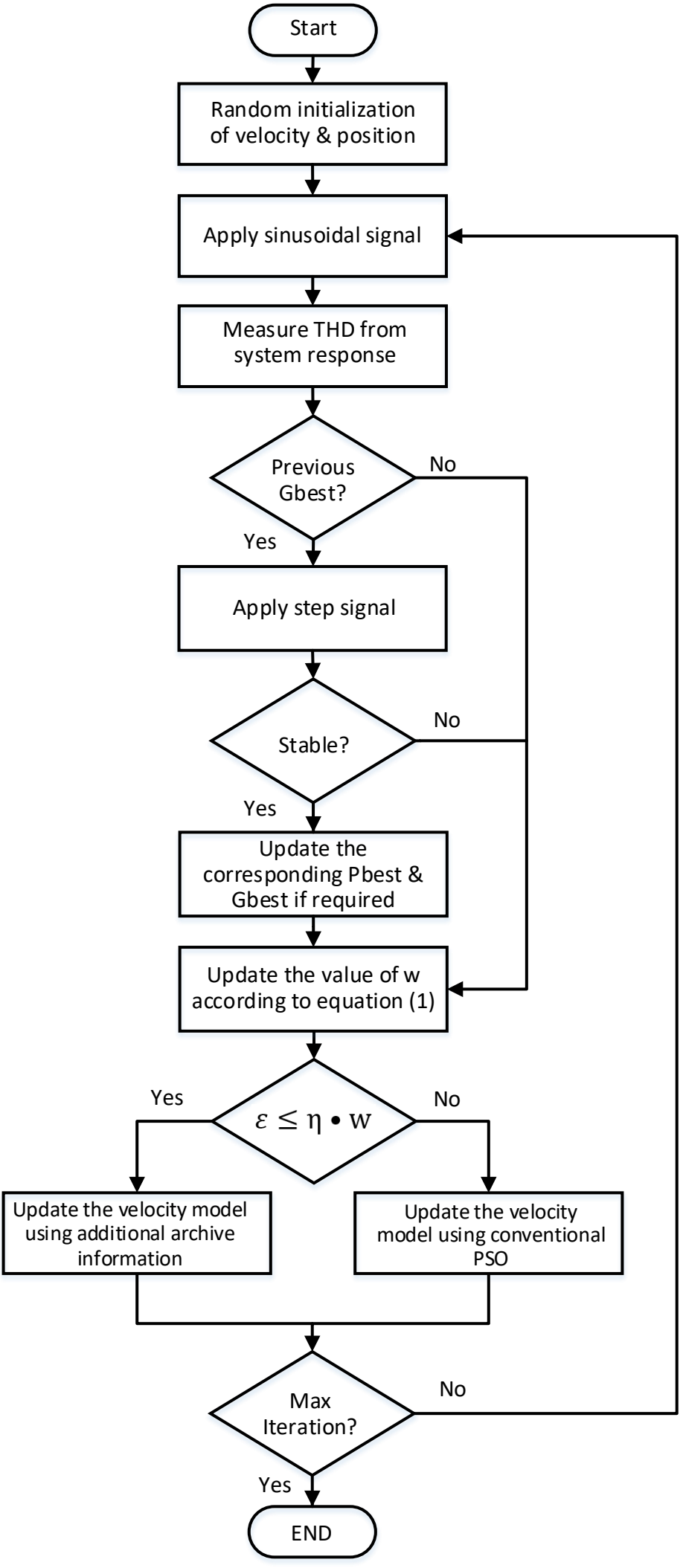
Start
Random initialization of velocity & position
Apply sinusoidal signal
Measure THD from system response
Previous Gbest?
No
Yes
Apply step signal
Stable?
No
Yes
Update the corresponding Pbest & Gbest if required
Update the value of w according to equation (1)
$\varepsilon \leq \eta \bullet w$
Yes
No
Update the velocity model using additional archive information
Update the velocity model using conventional PSO
Max Iteration?
No
Yes
END