

class PoMiN

Data

private

q

~~vector~~ ~~double~~

vector <

vector < ~~variable~~ ^{space} >

$3 \times N$

p

~~vector~~ ~~double~~

vector <

vector < ~~variable~~ >

$3 \times N$

qdot, pdot

~~vector~~ ~~double~~

"

$3 \times N$

[.]_{ab}

→

Θ_{ab}

$N \times N$

N

int

y_{ba}

$N \times N$

r_{smallest}

double

E_n

N

a, b

int

ρ_a^2

N

r_{ab}

$N \times N$

Methods

Needs

Calls

Computes

Hamilton Equations

Calc Phi

DHamiltonian

~~qdot, pdot~~

DHamiltonian

qdot, pdot

Calc Phi

[.]_{ab}, r_{smallest}, a, b

calc Hamiltonian

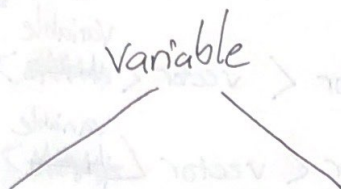
calc Phi

H_0, H_1, H_2, H_3

abstract class variable

get()
set()

data private
double / quad



double var

set(double)

quad var

set(quad)

q

$$\dot{q} = \frac{dq}{dt}$$

class RK4

Data

private

timestep

double

Courant

double

Methods

calc Timestep

integrate

Needs

r_{smallest}
2 part # $a + b$] from $P_0 M_i N$

$P_0 M_i N$
timestep

Computes

timestep

p, q
 $p_{\text{dot}}, q_{\text{dot}}$

Class PoMin

double

quad

Data

Public: q N
 p timestep
 $qdot$ mass
 $pdot$

Private: $r_{smallest}$
2 part #'s
 $\theta_{ab}, y_{ba}, \bar{m}_a, p_a^2, r_{ab}$
 H_0, H_1, H_2, H_3

Methods

Inputs (Params)

Computes

~~XXXXXXXXXX~~

Calc ~~Phi~~ Φ
D Hamiltonian

everything

Calc Timestep

~~XXXX~~ Courant

$r_{smallest}$ & 2 part #'s

Hamilton Equations

Calc
~~XXXXXXXXXX~~ Hamiltonian

$r_{smallest}, \theta_{ab}, y_{ba}, \bar{m}_a, p_a^2, r_{ab}$
+ 2 part #'s \uparrow
 $qdot, pdot$ \rightarrow Φ_{ab}

~~prereq: call CalcPhi~~

calls: ~~CalcPhi~~ \rightarrow D Hamiltonian

prereq: call CalcPhi

RK4

timestep
 p, q
 $qdot, qdot$

call Hamilton Equations