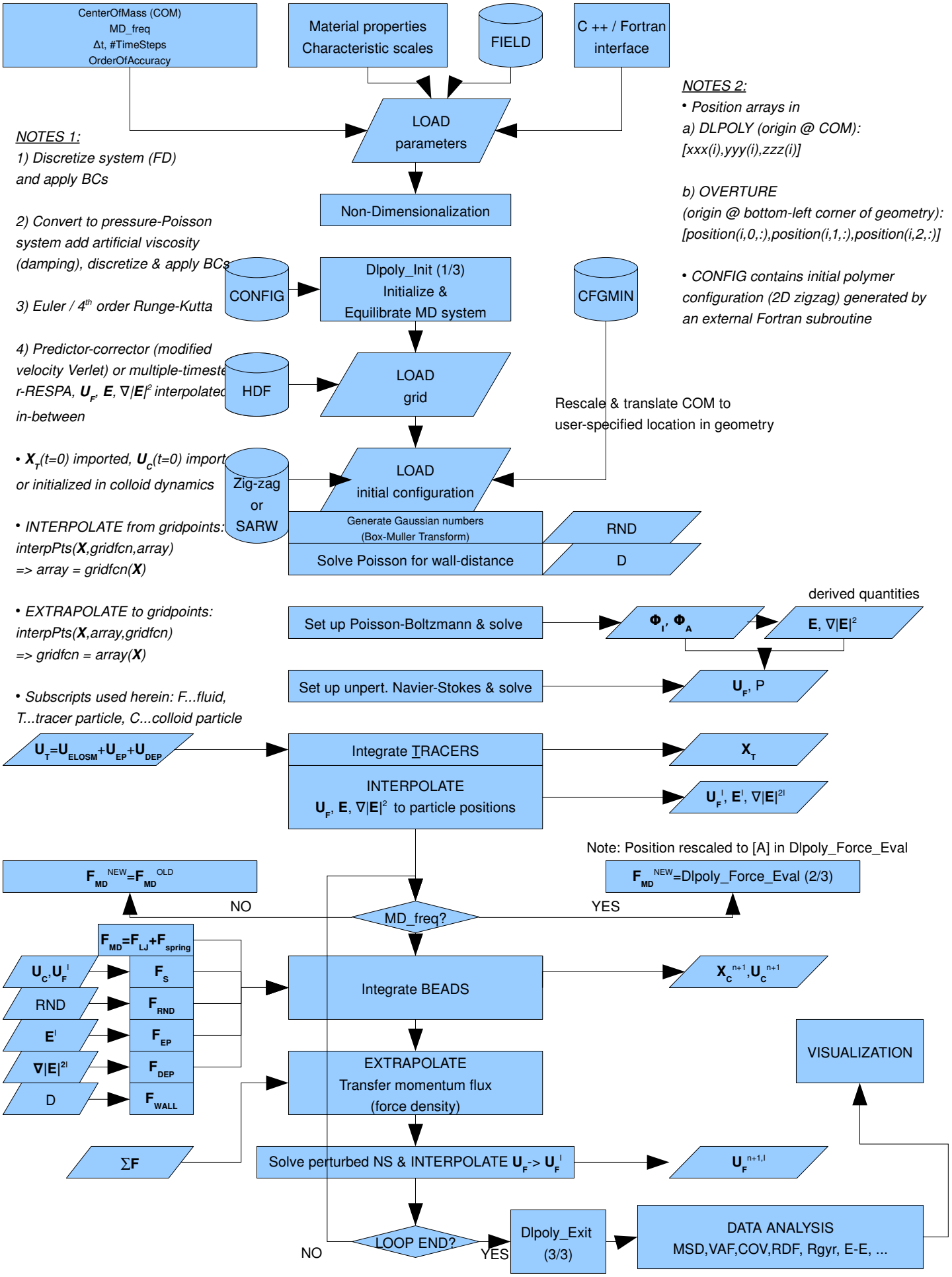
Tracker FLOWCHART



NOTES 1:

1) Discretize system (FD) and apply BCs

2) Convert to pressure-Poisson system add artificial viscosity (damping), discretize & apply BCs

3) Euler / 4th order Runge-Kutta

4) Predictor-corrector (modified velocity Verlet) or multiple-timeste r-RESPA, $\boldsymbol{U}_F$, $\boldsymbol{E}$, $\nabla|\boldsymbol{E}|^2$ interpolated in-between

• $\boldsymbol{X}_T$(t=0) imported, $\boldsymbol{U}_C$(t=0) import or initialized in colloid dynamics

*• INTERPOLATE from gridpoints: interpPts(**X**,gridfcn,array) => array = gridfcn(**X**)*

*• EXTRAPOLATE to gridpoints: interpPts(**X**,array,gridfcn) => gridfcn = array(**X**)*

• Subscripts used herein: F...fluid, T...tracer particle, C...colloid particle

NOTES 2:

• Position arrays in

a) DLPOLY (origin @ COM): [xxx(i),yyy(i),zzz(i)]

b) OVERTURE (origin @ bottom-left corner of geometry): [position(i,0,:),position(i,1,:),position(i,2,:)]

• CONFIG contains initial polymer configuration (2D zigzag) generated by an external Fortran subroutine