

ERRATA

$$p=1:mr1 \quad p=1:m1 \quad mr1=p-n+1 \quad pq=r(t-\Delta t)/(c*\Delta t)$$

$$n=1:p \quad pq=1:p \quad m1=p-pq+1 \quad r(n,mr1)=r(pq,m1)$$

$$r(t-\Delta t)=r(r(t-\Delta t)/c)=r(r(t-\Delta t))/c \quad r^2(t-\Delta t)=r^2(r(t-\Delta t)/c)=r^2(r(t-\Delta t))/c^2$$

$$\frac{f_i}{m}(t-\Delta t) = \frac{(\Delta \dot{r}_i)_{t-\Delta t}}{\Delta t} \delta(t) \Delta t \quad \left\{ \begin{matrix} \dot{r}_i^M \\ \dot{r}_i^M \end{matrix} \right\}_{t-\Delta t} \Delta t = \left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_t - \left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_{t-\Delta t}$$

$$\left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_t = \begin{bmatrix} I & \Delta t I \\ A_{t-\Delta t}^M \Delta t & A_{t-\Delta t}^M \Delta t^2 + I \end{bmatrix} \left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_{t-\Delta t} \rightarrow$$

$$\left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_t = \begin{bmatrix} I & \Delta t I \\ A_{t-\Delta t}^M \Delta t & A_{t-\Delta t}^M \Delta t^2 + I \end{bmatrix} \left\{ \begin{matrix} r_i^M \\ \Delta(\dot{r}_i^M)H \end{matrix} \right\}_{t-\Delta t}$$

$$\left(\frac{f_i}{m}(t-\Delta t) \right) \frac{(\Delta \dot{r}_i)_{t-\Delta t}}{\Delta t} = \frac{Gr_i(t-\Delta t)M}{r(t-\Delta t)r^2(r(t-\Delta t)/C)}$$