

$$\frac{\partial}{\partial t} \frac{\partial}{\partial \tau} \frac{\partial \tau}{\partial t} + \frac{\partial}{\partial u} \frac{\partial u}{\partial t} \frac{\partial}{\partial \tau} \frac{r}{R^2} \frac{dR}{dt} \frac{\partial}{\partial u} \frac{\partial}{\partial \tau} u \frac{\dot{R}}{R} \frac{\partial}{\partial u}$$