



Grid

$$\begin{aligned}
 \frac{dS}{dt} &= -\beta(t) \frac{SI}{N} \\
 \frac{dI}{dt} &= \beta(t) \frac{SI}{N} - \gamma \\
 \frac{dR}{dt} &= \gamma I
 \end{aligned} \tag{1}$$

ODE