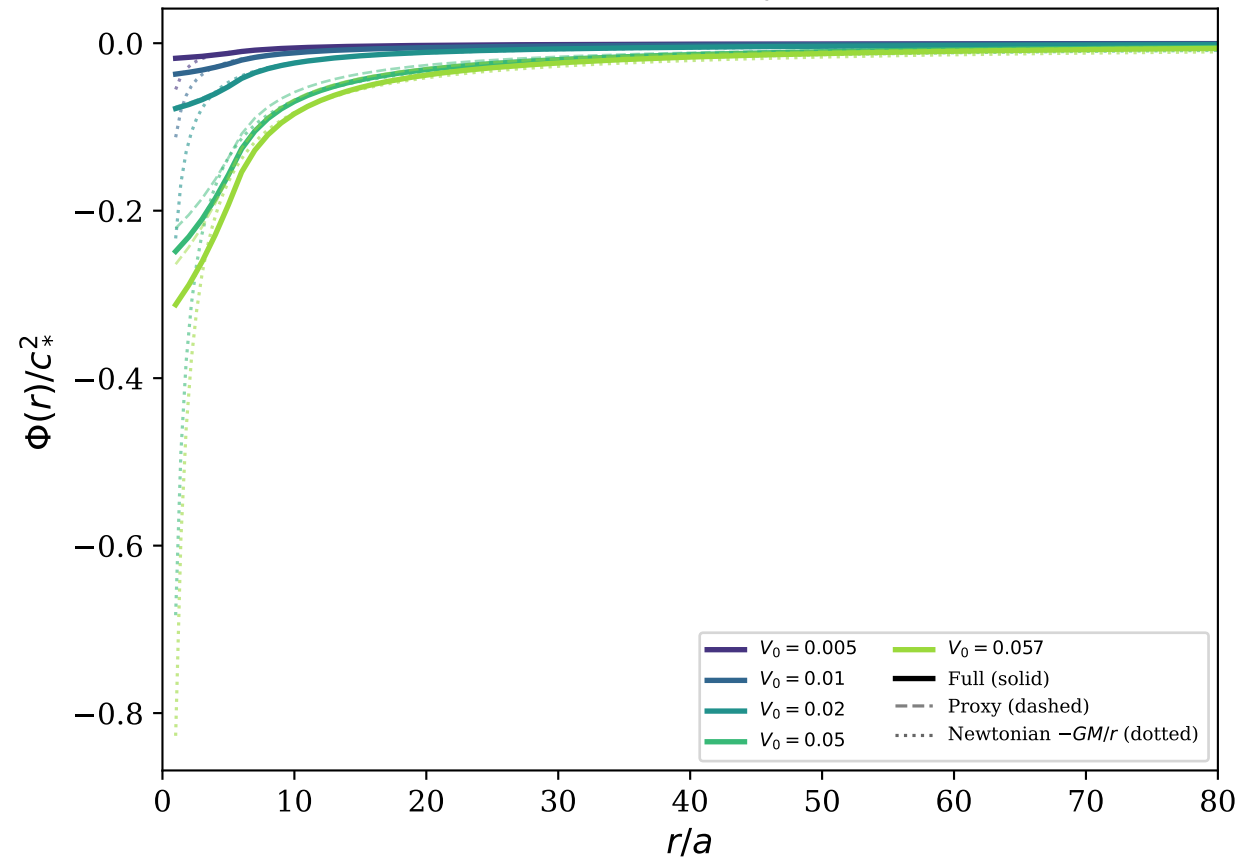**Full (solid) vs proxy (dashed)**

Lapse profile

Left panel legend:
- $V_0 = 0.005$
- $V_0 = 0.01$
- $V_0 = 0.02$
- $V_0 = 0.05$
- $V_0 = 0.057$
- Full (solid)
- Proxy (dashed)
- Newtonian $-GM/r$ (dotted)

Right panel legend:
- $V_0 = 0.005$
- $V_0 = 0.01$
- $V_0 = 0.02$
- $V_0 = 0.05$
- $V_0 = 0.057$
- Full (solid)
- Proxy (dashed)
- $\sqrt{1 - r_s/r}$ (dotted)

Left panel axes: x: r/a, y: $\Phi(r)/c_*^2$

Right panel axes: x: r/a, y: Lapse $N(r)$