

Variable Eddington Factor and Radiating Slowly Rotating Bodies in General Relativity Evolution of Physical Variables for Lorentz-Eddington Closure Relation

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Profiles of: hydrodynamic density [1](#), hydrodynamic pressure [2](#), radial velocity [3](#), energy flux density [4](#), radiation energy density [5](#), radiation pressure [6](#), orbital velocity [7](#) and the dragging function [8](#).

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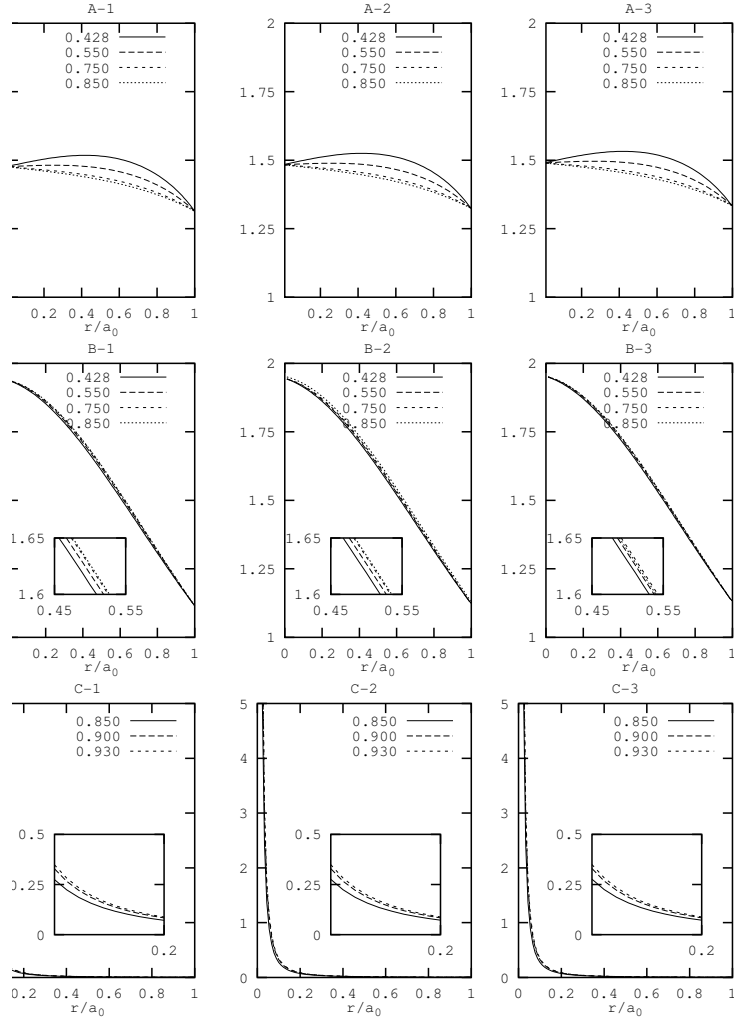


Figure 1: Profiles of hydrodynamic density, $\rho \times 10^{14}$ gr/cm³, corresponding to Schwarzschild-like and for Tolman IV-like are represented in plates A-1 thought A-3 and B-1 thought B-3, respectively. Tolman VI-like models are displayed in plates C-1 thought C-3 as $\rho \times 10^{16}$ gr/cm³. The various constant flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

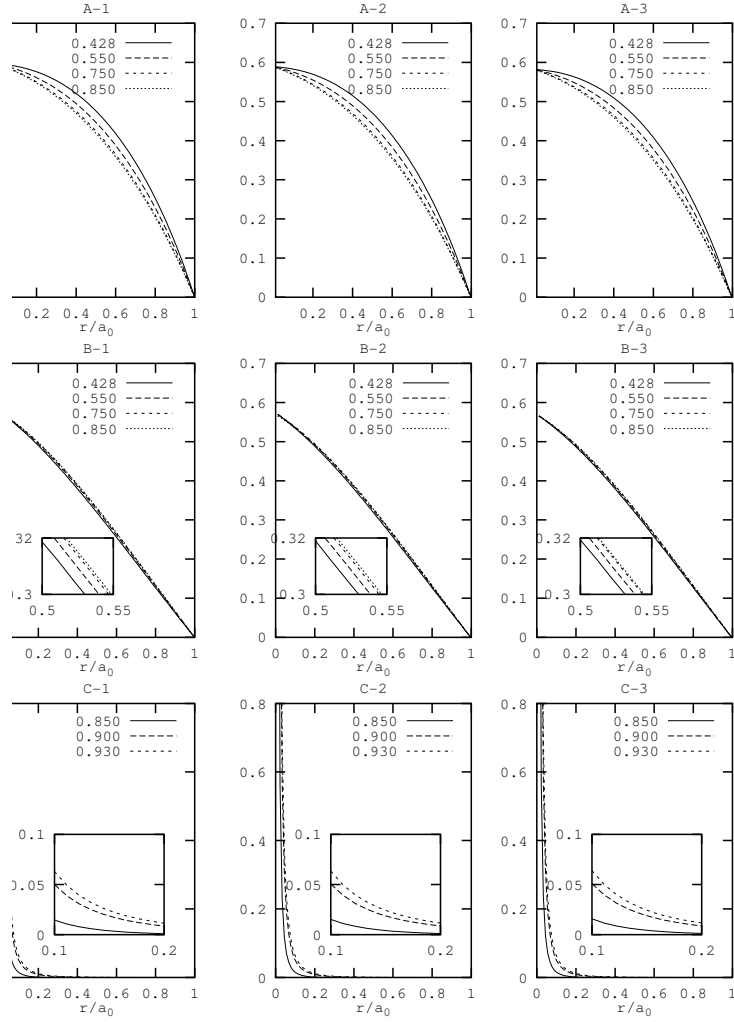


Figure 2: Profiles of hydrodynamic pressure, $P \times 10^{40} \text{dyn/cm}^2$ corresponding to Schwarzschild-like and for Tolman IV-like are respresented in plates A-1 thought A-3 and B-1 thought B-3, respectively. Tolman VI-like models are displayed in plates C-1 thought C-3 as $P \times 10^{44} \text{dyn/cm}^2$. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

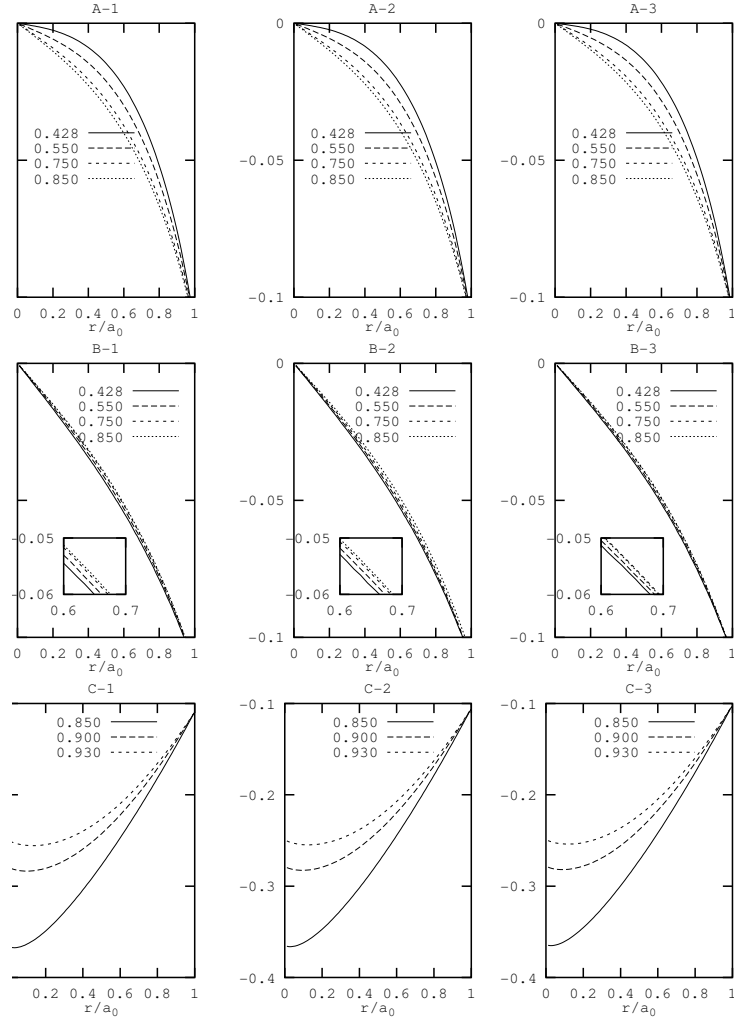


Figure 3: Profiles of radial velocity, $\omega_x \times c$, corresponding to Schwarzschild-like for Tolman IV-like and Tolman VI-like are represented in plates (A-1 through A-3), (B-1 through B-3) and (C-1 through C-3), respectively. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

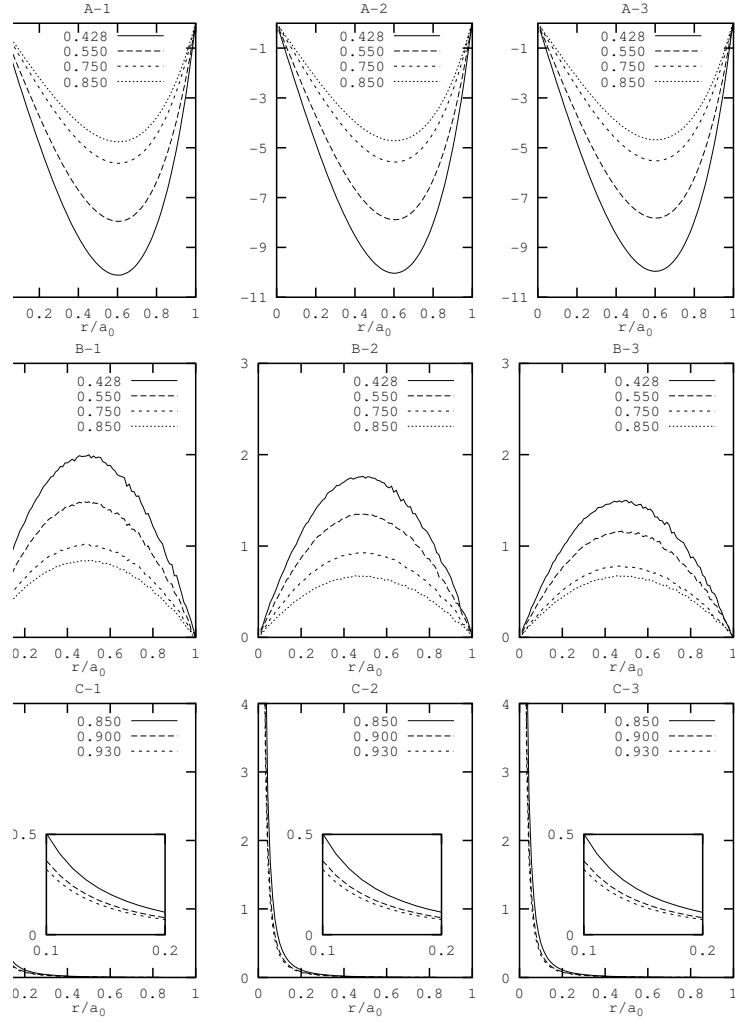


Figure 4: Profiles of energy flux density, $\mathcal{F} \times 10^{42} \text{erg/cm}^2 \text{s}$ corresponding to Schwarzschild-like and for Tolman IV-like are represented in plates A-1 through A-3 and B-1 through B-3, respectively. Tolman VI-like models are displayed in plates C-1 through C-3 as $\mathcal{F} \times 10^{46} \text{erg/cm}^2 \text{s}$. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

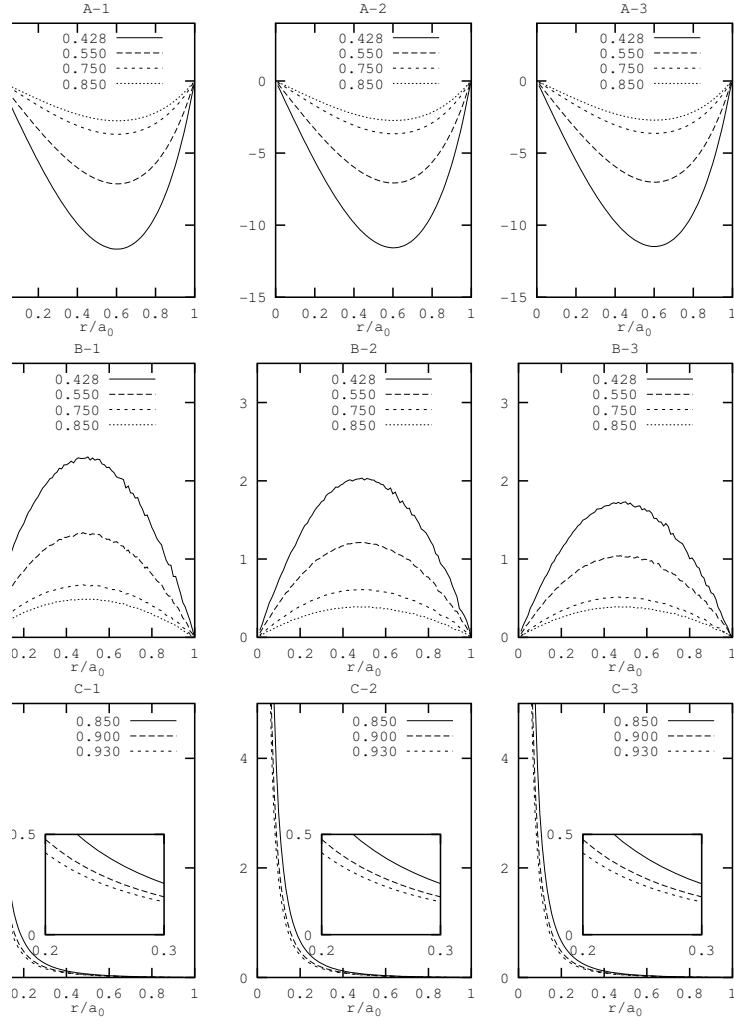


Figure 5: Profiles of radiation density, $\rho_R \times 10^{11}$ gr/cm³, corresponding to Schwarzschild-like and for Tolman IV-like are represented in plates A-1 through A-3 and B-1 through B-3, respectively. Tolman VI-like models are displayed in plates C-1 through C-3 as $\rho_R \times 10^{13}$ gr/cm³. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

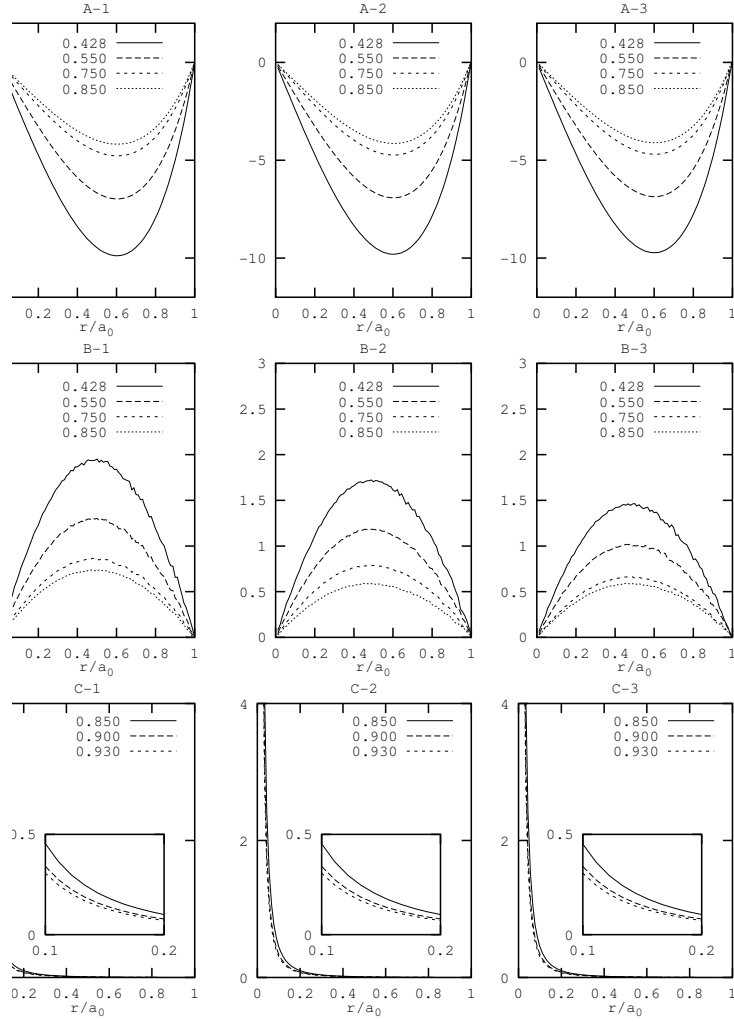


Figure 6: Profiles of radiation pressure, $\mathcal{P} \times 10^{38} \text{ din/cm}^2$ corresponding to Schwarzschild-like and for Tolman IV-like are respresented in plates A-1 thought A-3 and B-1 thought B-3, respectively. Tolman VI-like models are displayed in plates C-1 thought C-3 as $\mathcal{P} \times 10^{42} \text{ din/cm}^2$. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

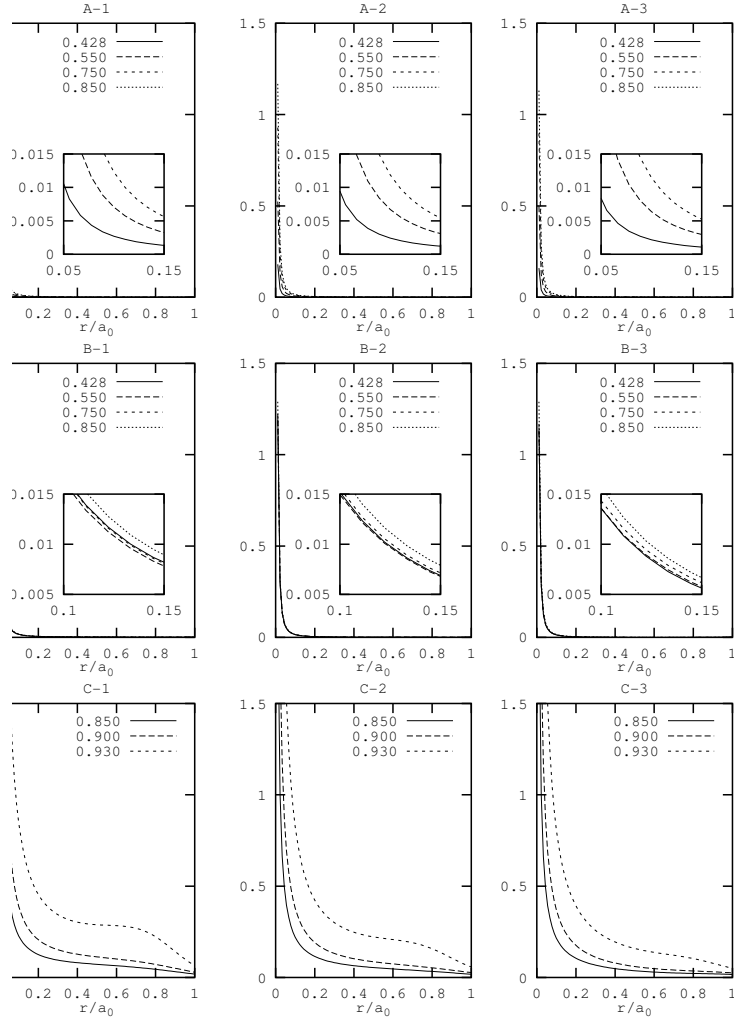


Figure 7: Profiles of orbital velocity $\omega_z \times 10^{-6} c$, corresponding to Schwarzschild-like for Tolman IV-like and Tolman VI-like are represented in plates (A-1 through A-3), (B-1 through B-3) and (C-1 through C-3), respectively. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.

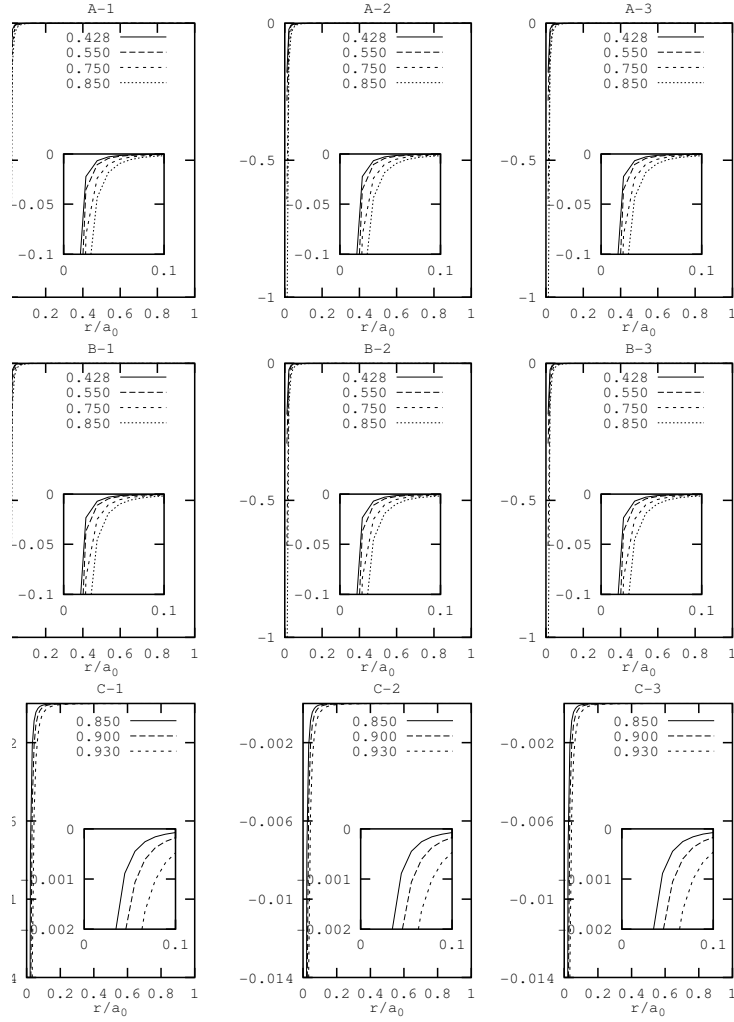


Figure 8: Profiles of the dragging function $\mathcal{D} \times 10^{42} \text{erg/cm}^2 \text{s}$ corresponding to Schwarzschild-like and for Tolman IV-like are respresented in plates A-1 thought A-3 and B-1 thought B-3, respectively. Tolman VI-like models are displayed in plates C-1 thought C-3 as $\mathcal{D} \times 10^{46} \text{erg/cm}^2 \text{s}$. The various flux factors are $f_{LE} = 0.426, 0.550, 0.750, 0.850$ for Schwarzschild-like and the Tolman IV-like models and $f_{LE} = 0.850, 0.900, 0.930$ for the Tolman VI-like. The retarded times displayed are $u = 10, 30, 50$.