$$r = 0.1, \beta = \gamma = 1$$

$$\frac{1}{\left(\frac{\beta t}{\gamma x}\right)^2 + x^2\right)^{-\frac{3}{2}}}$$
800
$$\frac{1}{x^3} \cdot \left[\pi - \frac{2\frac{\beta t}{\gamma x}}{1 + (\frac{\beta t}{\gamma x})^2} - 2\tan^{-1}\left(\frac{\beta t}{\gamma x}\right)\right]$$
600
400
200
0.5
1.0
1.5
 x