Stationary Thermal Conduction through the Wall of a Zylindrical Tube

Analytical Solution:

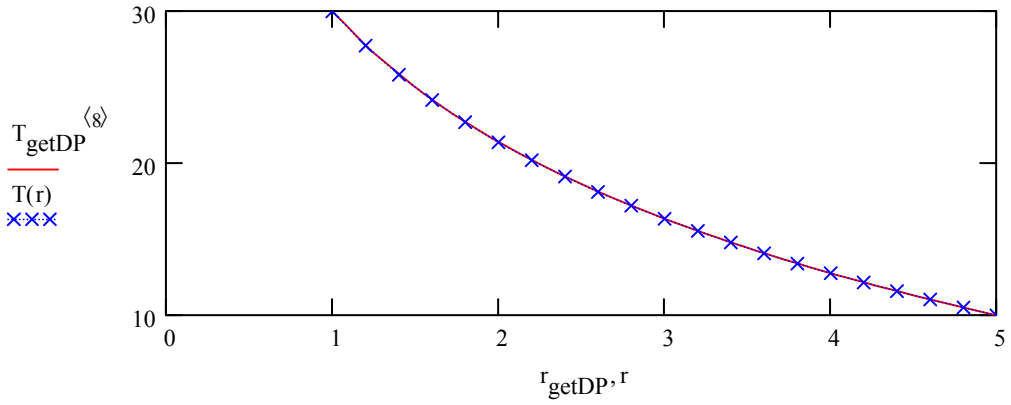
$$\frac{d^2}{dr^2}T(r) + \frac{1}{r}\cdot\frac{d}{dr}T(r) = 0$$

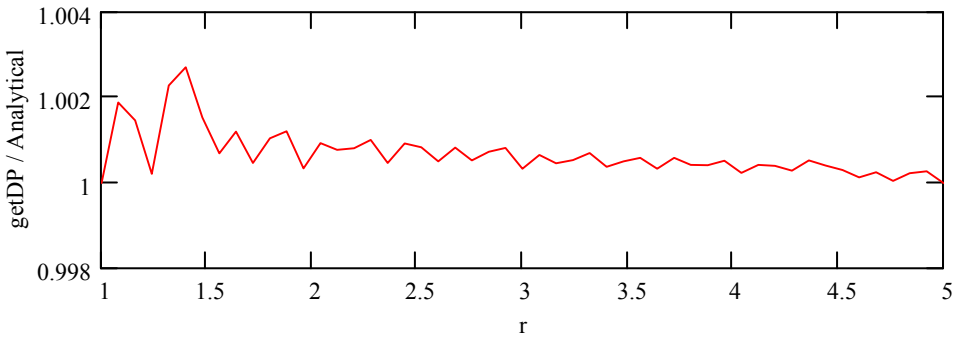
Laplace equation in zylindrical symmetry

$$T(r) := T_i - \frac{T_i - T_o}{\ln\left(\frac{r_o}{r_i}\right)}\cdot\ln\left(\frac{r}{r_i}\right)$$

Solution

Comparison to getDP's Solution:





This ratio improves when the resolution of the model is increased