OpenFOAM_Cases-Diffusion

The below cases were simulated using oepnFOAM. The cases are only concerned with pure diffusion. Each example has a seperate solver.

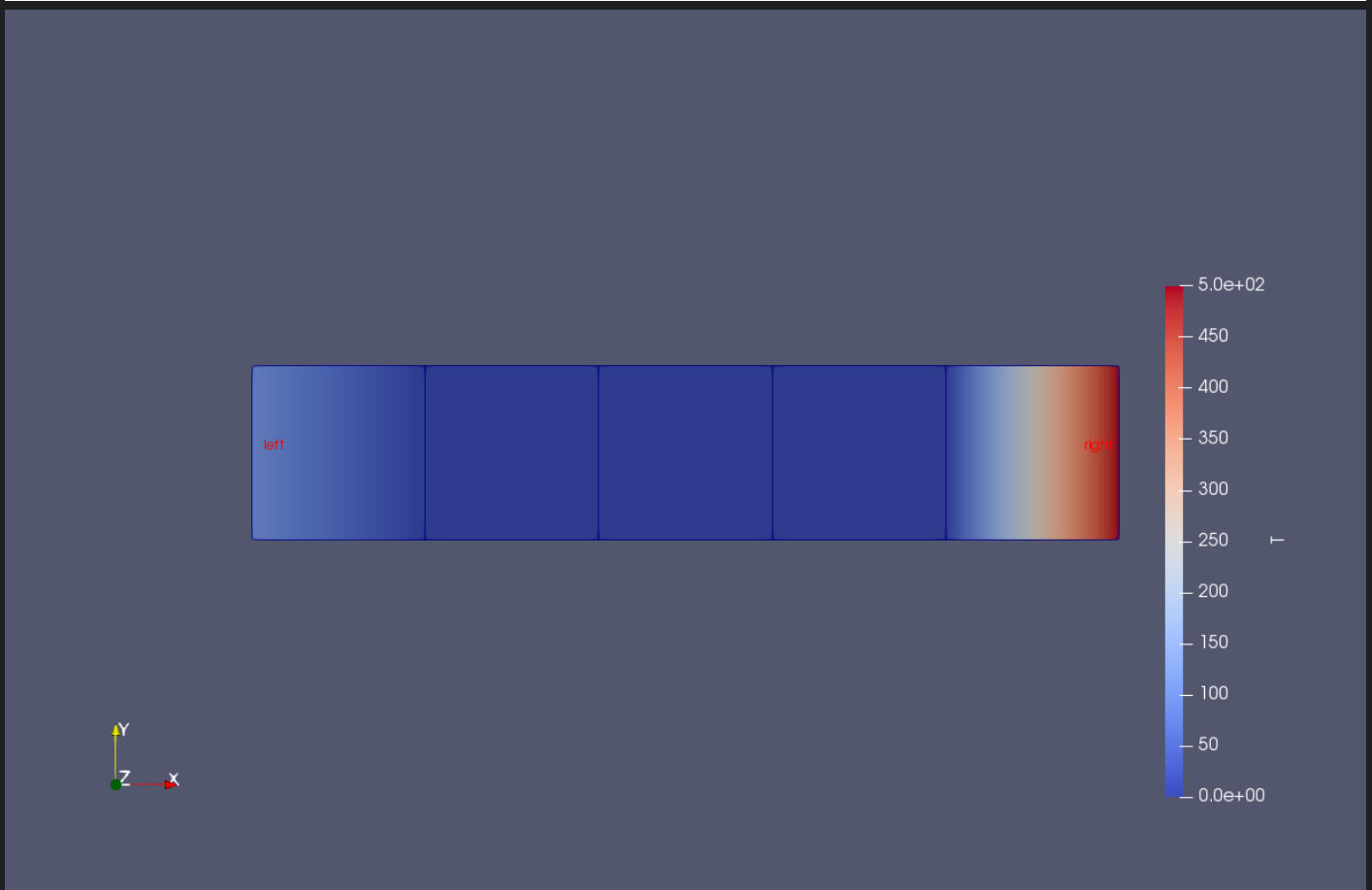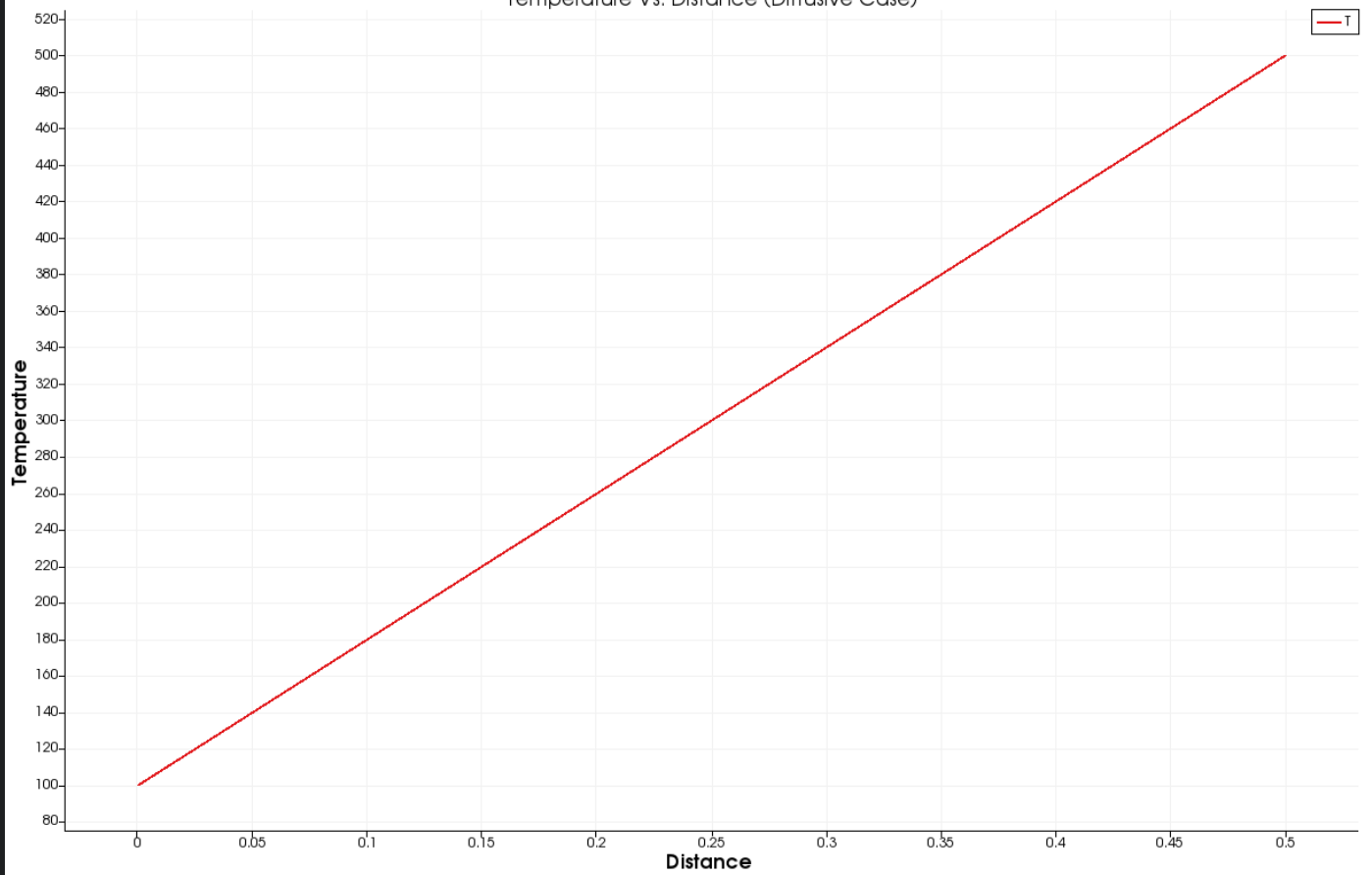Variables involved :

$$\Gamma = Diffusivity$$

$$T = Temperature$$

$$Q = Source$$

Case of Pure Disffusion :

The below equation describes a state of pure diffusion :

$$\Gamma \frac{\partial^2 T}{\partial x^2} = 0$$

Initial State with boundary conditions

Final State

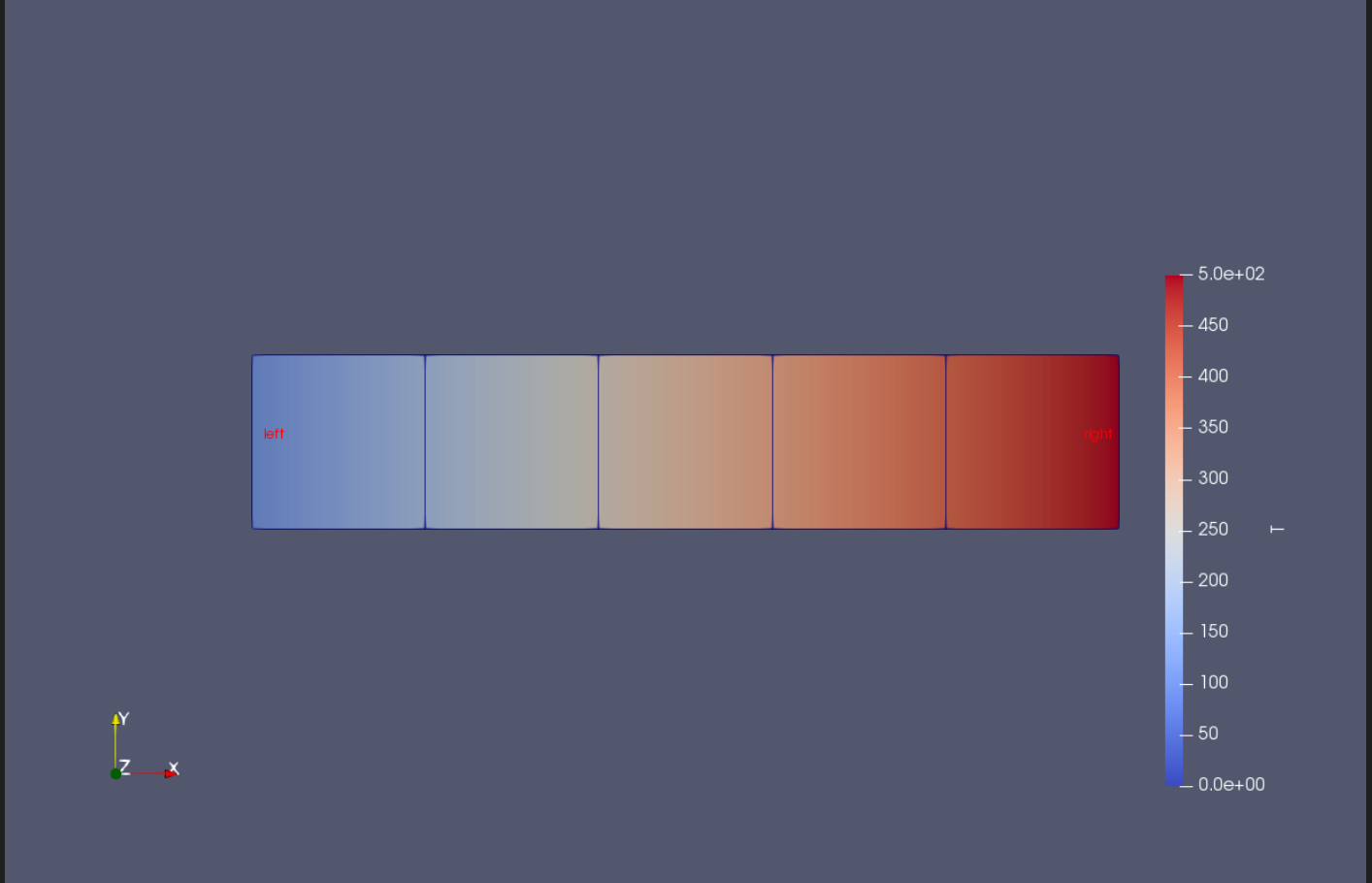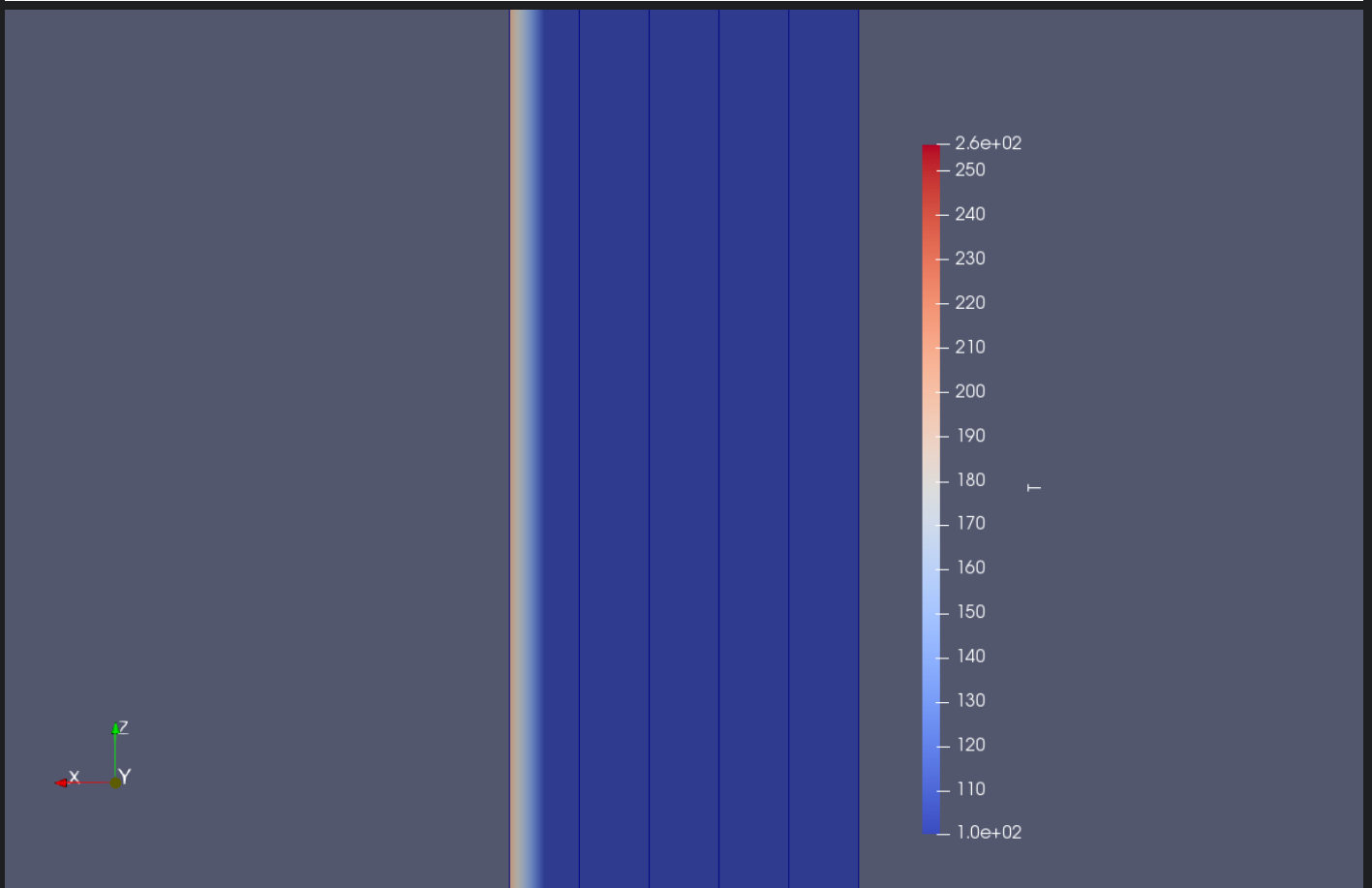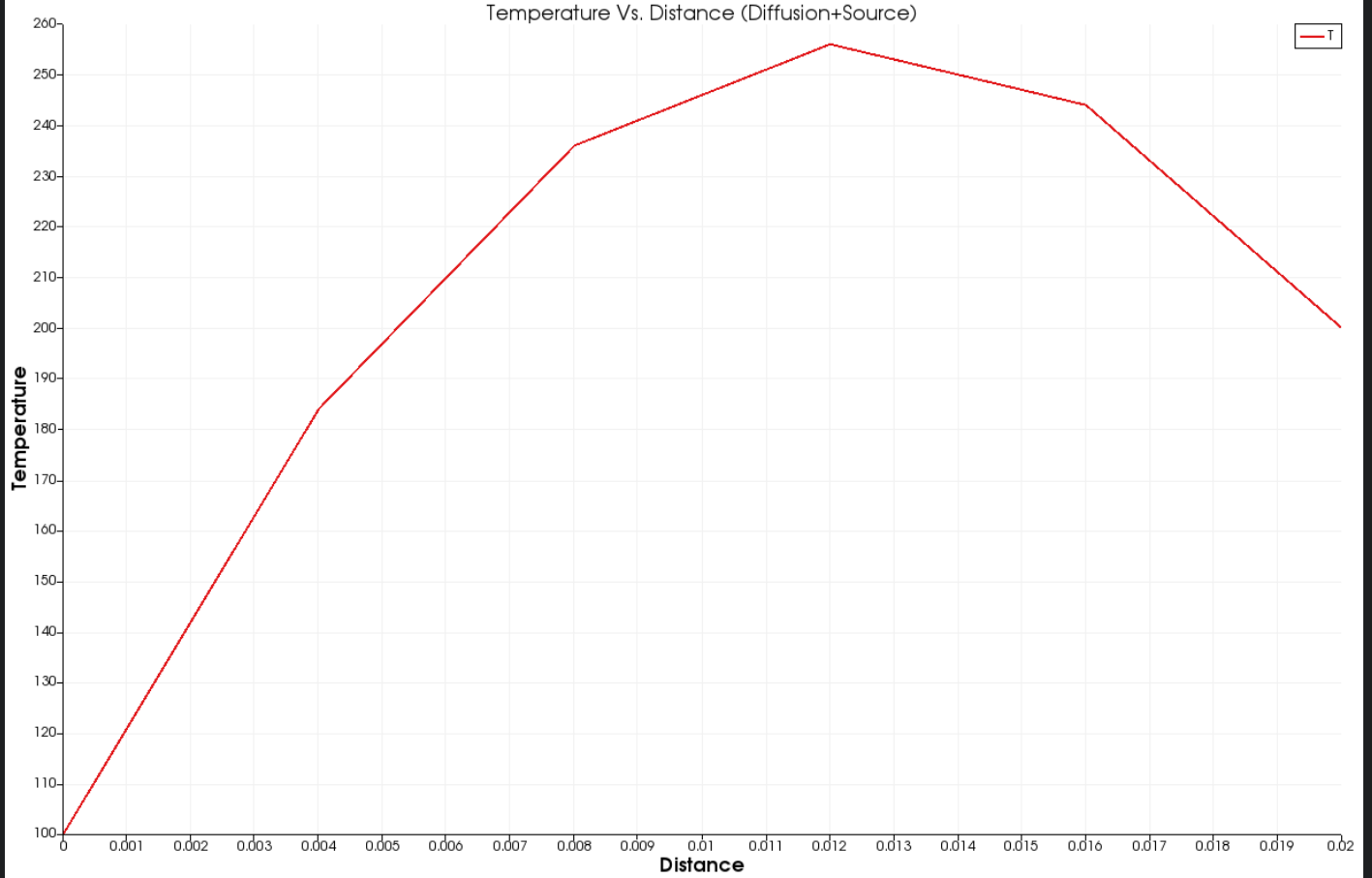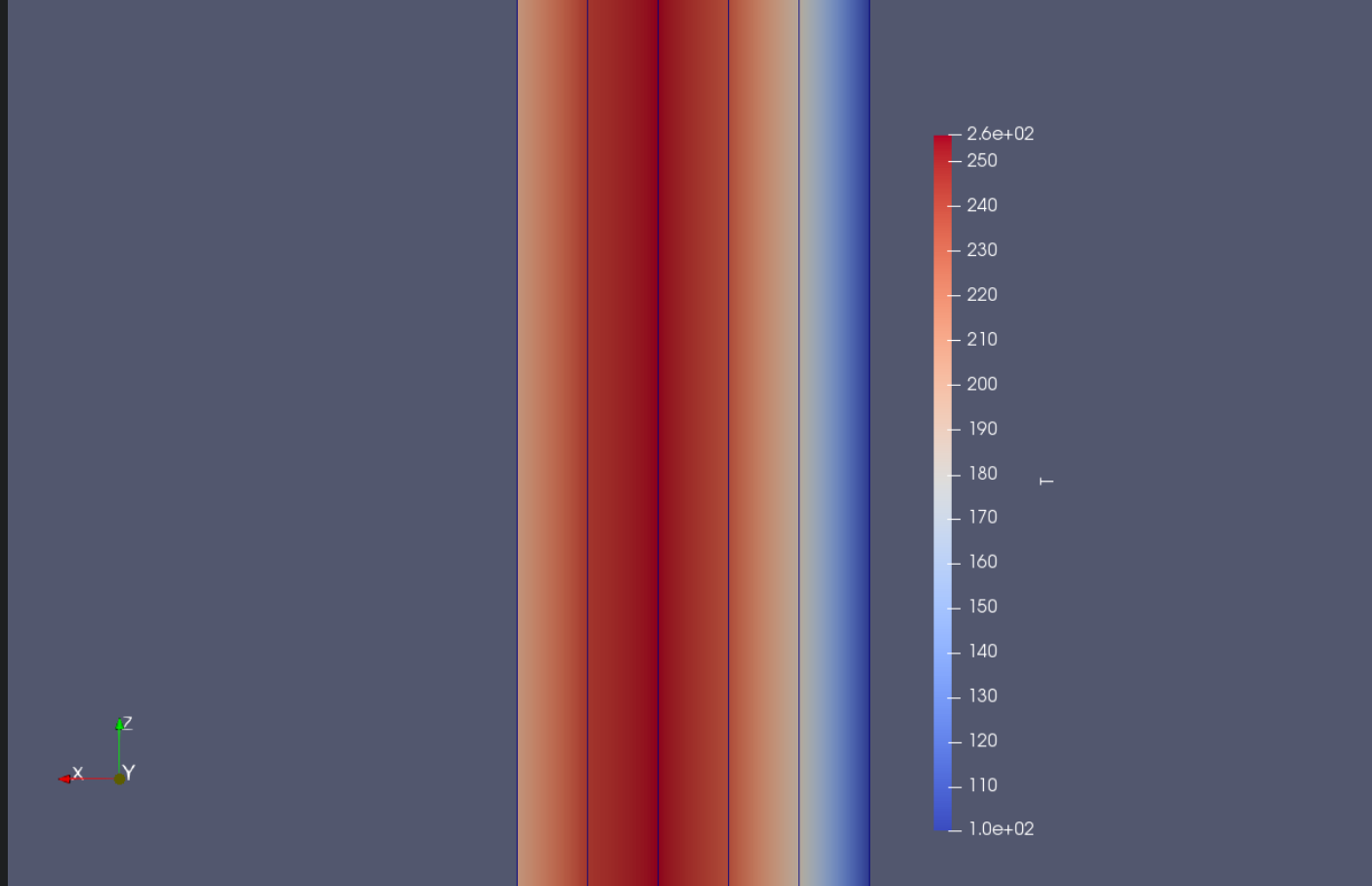# Case of Pure Disffusion with Source :

The below equation describes a state of pure diffusion with source:

$$\Gamma \frac{\partial^2 T}{\partial x^2} = Q$$

Temperature Vs. Distance (Diffusion+Source)

Initial State with boundary conditions

Final State