

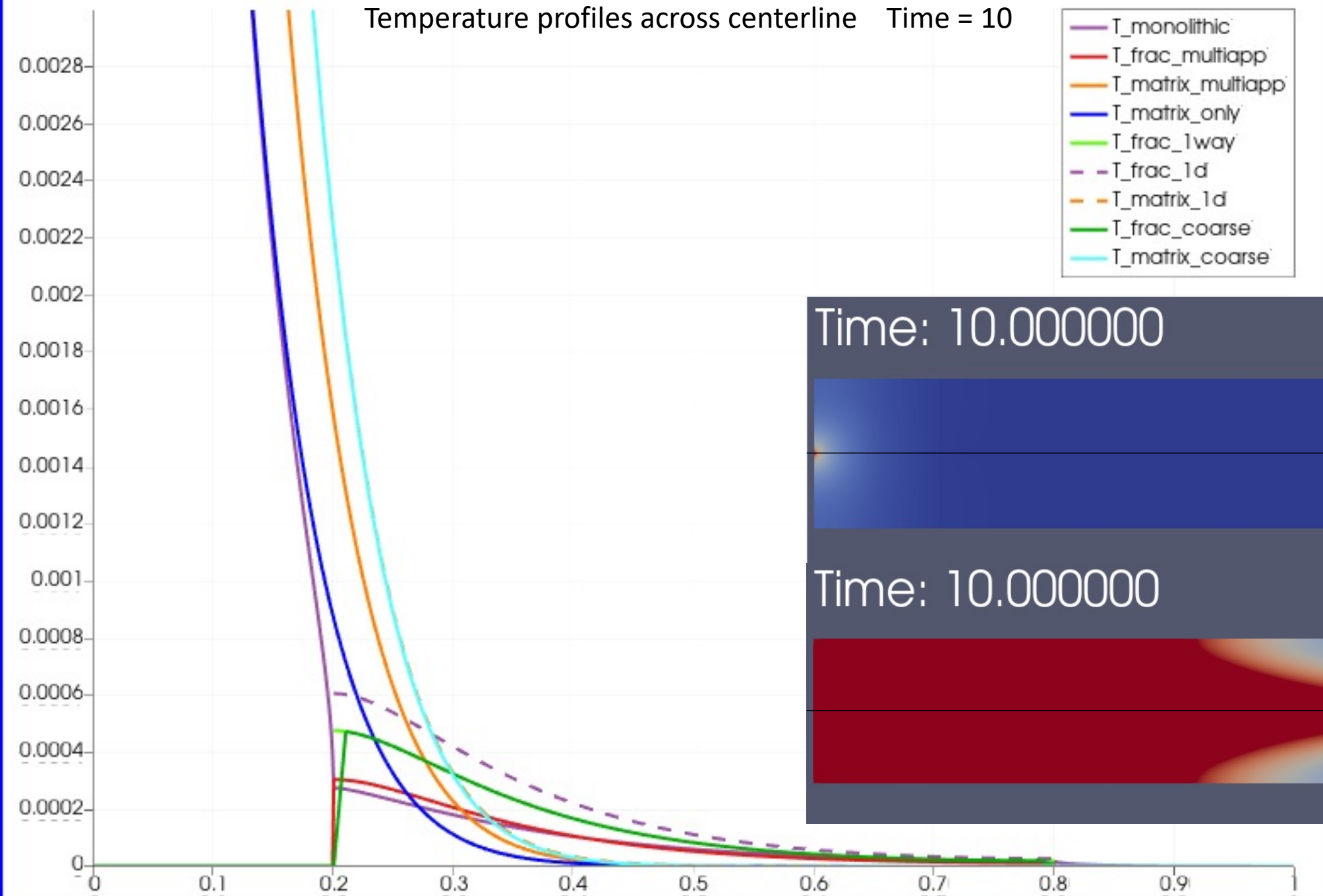
case 0: Only contains matrix material properties

case 1: monolithic, matrix and fracture together

case 2: Subapp approach: Main - matrix, Sub - fracture

- a) Only transferring temperature and applying with PoursousFlowHeatMassTransfer on timestep begin or end of multiapp execution. What should the transer\_coefficient be? Should it have the same sign on the sub and main app? Should it be related to the diffusivity?
- b) Use picard iterations to force 2 sub-main app iterations per timestep. Transferring temperature and the residual produced by PoursousFlowHeatMassTransfer and applying as coupledForce. Trying to account for energy exchange between the two domains. Doesn't make a difference.
- c) Using coarse nonconforming main app mesh and 2d fracture mesh on sub-app
- d) Using Coarse nonconforming main app mesh and 1d fracture mesh on sub-app

Temperature profiles across centerline Time = 10



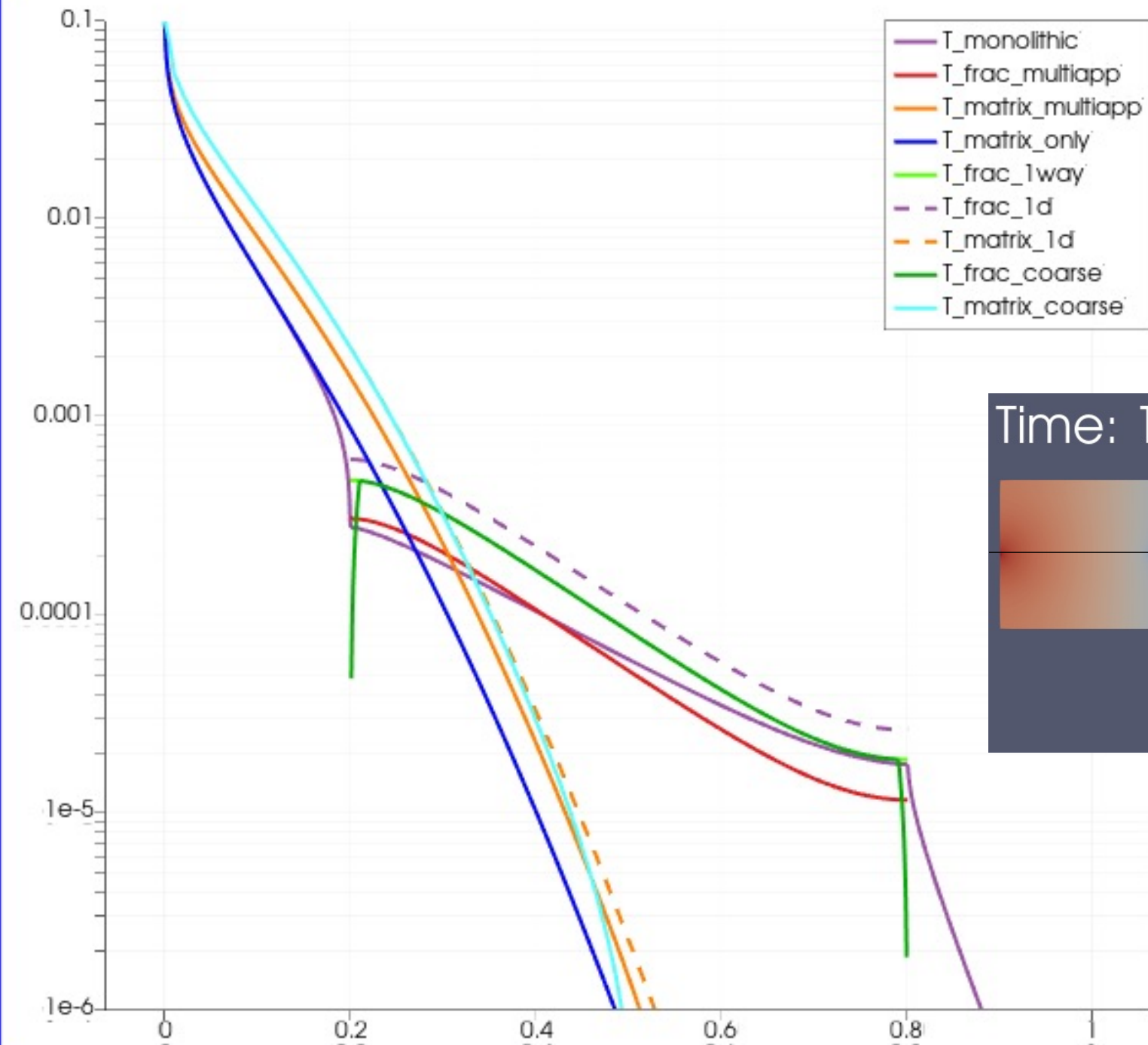
Time: 10.000000

Time: 10.000000

7.6e-02  
0.06  
0.04  
0.02  
0.0e+00

1.0e-05  
5e-6  
0.0e+00

Temperature profiles (log scale) across centerline  
Time = 10



Time: 10.000000

