Test Results for Mesh Hydro Code
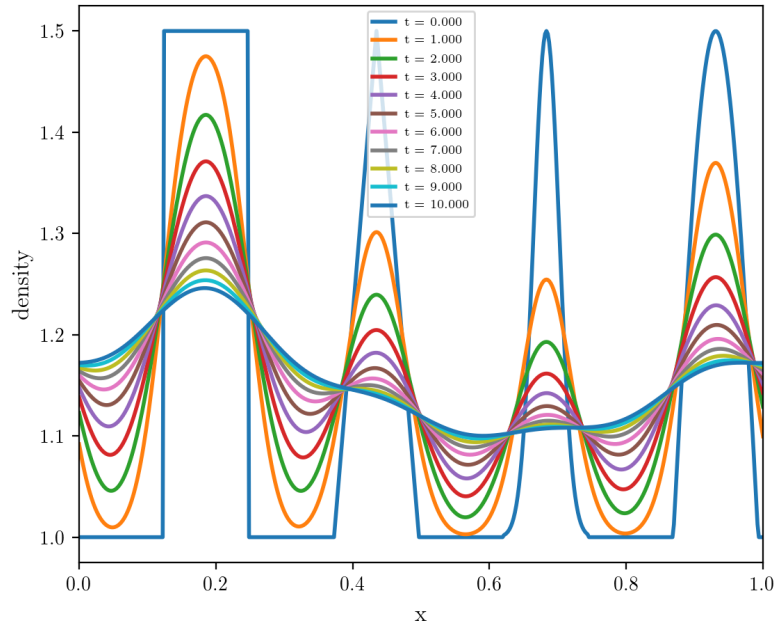
This computer

Contents
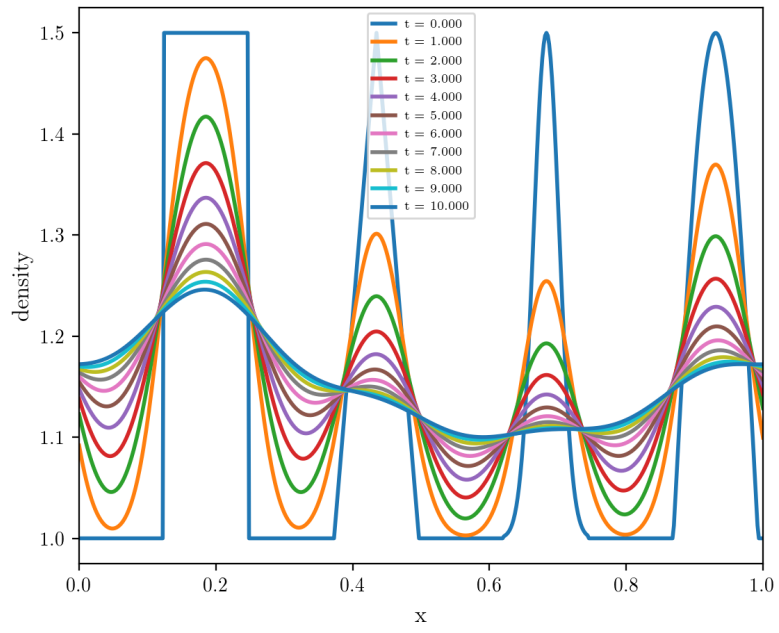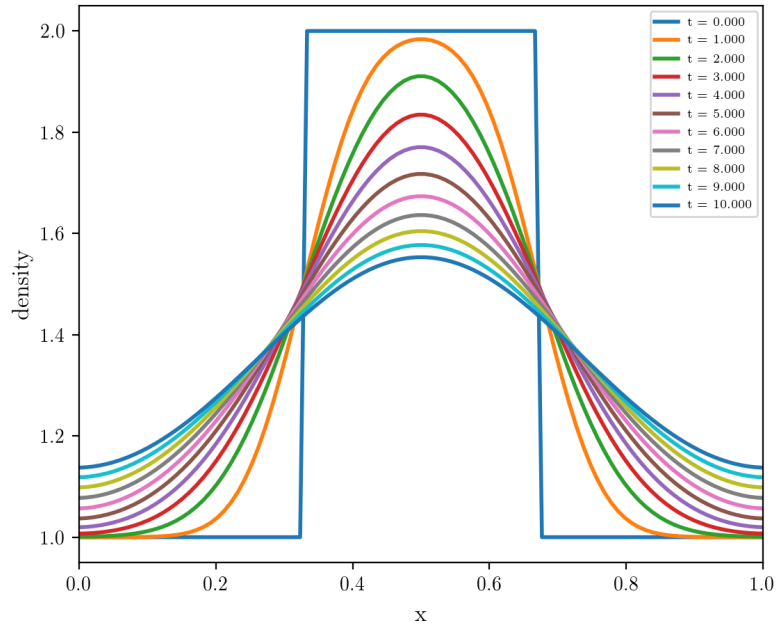
1 Advection

1.1 Piecewise Constant

Figure 1: Expected result 1D

Figure 2: Obtained result 1D

3

Figure 3: Expected result 1D negative velocity

Figure 4: Obtained result 1D negative velocity
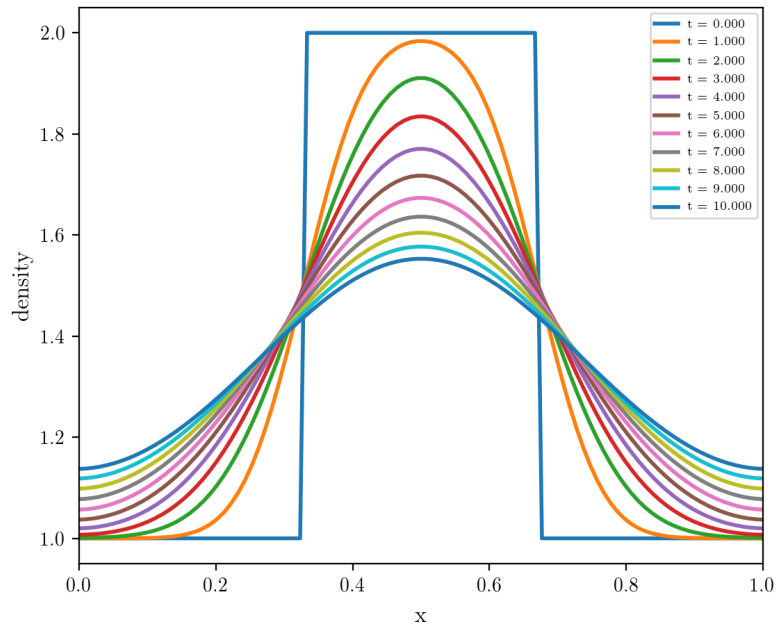
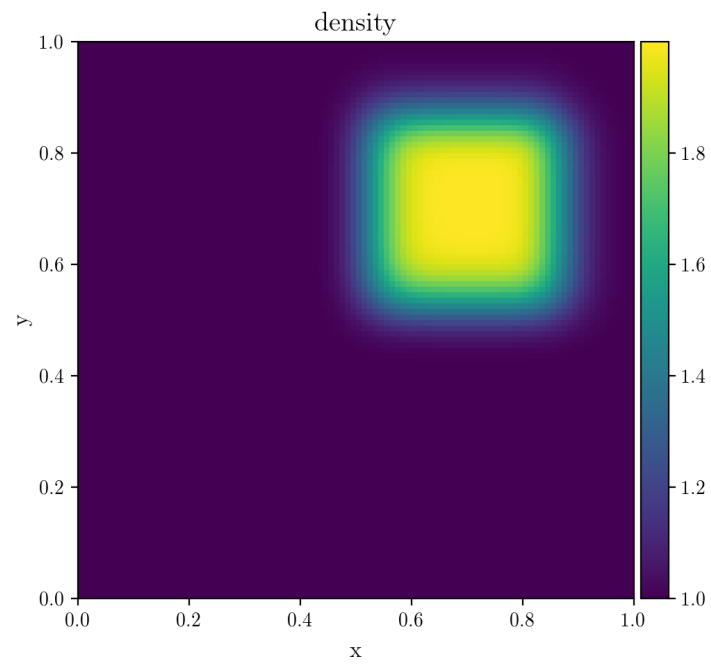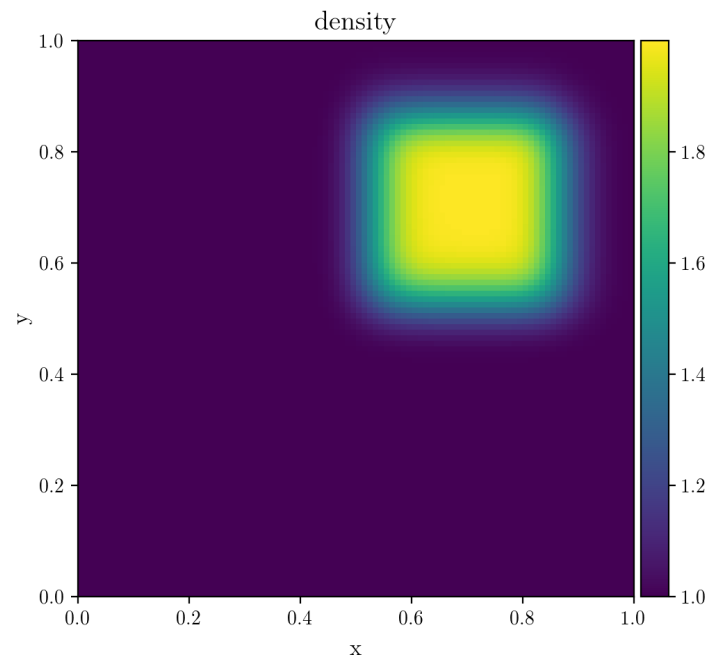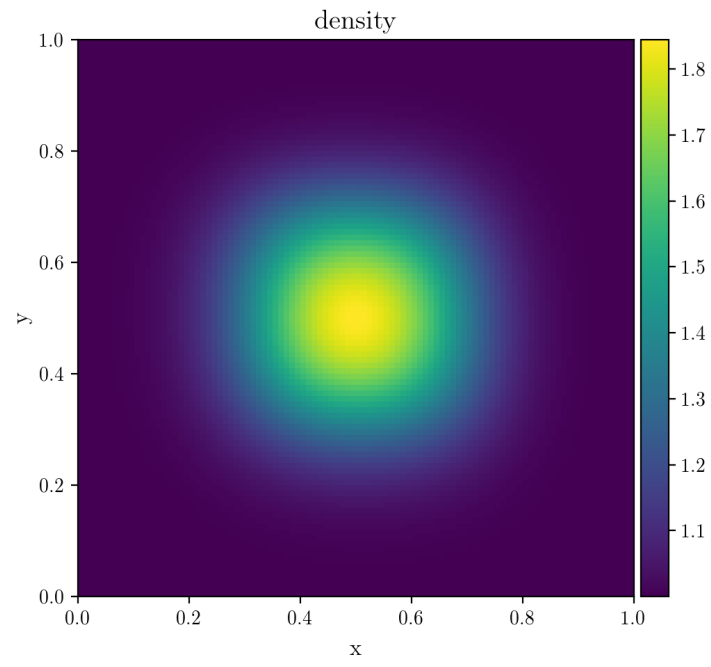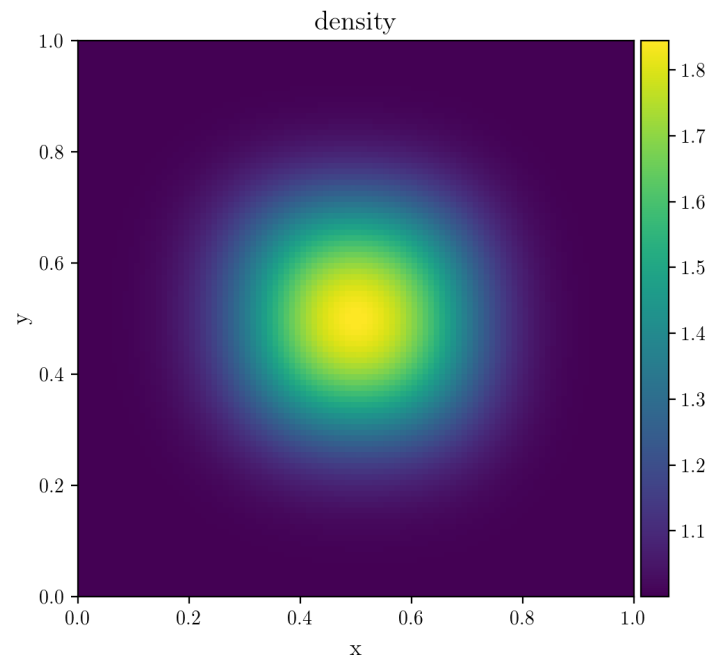**Figure 5:** Expected result 2D
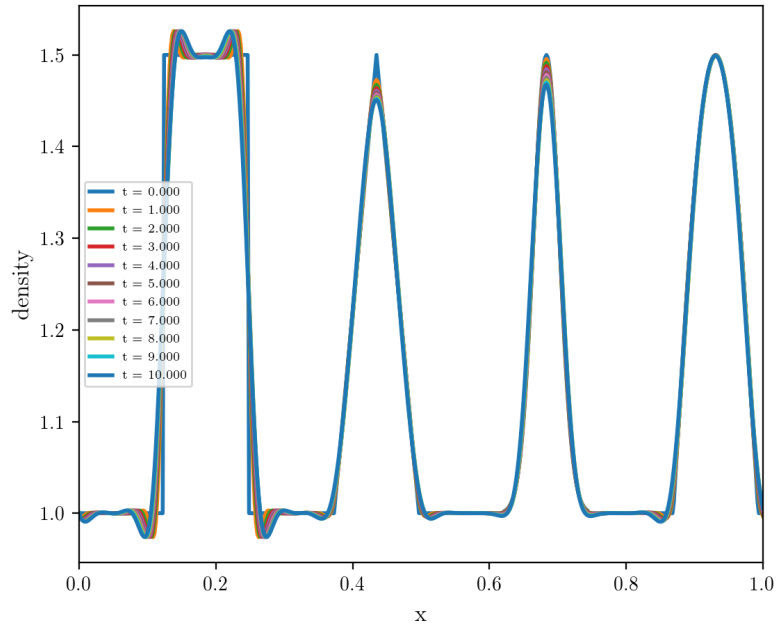

Figure 6: Obtained result 2D

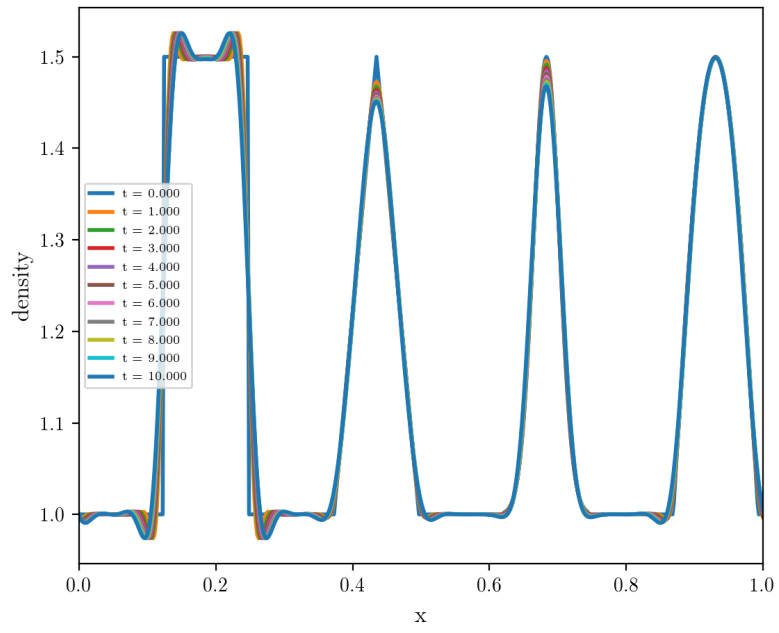**Figure 7:** Expected result 2D negative velocity

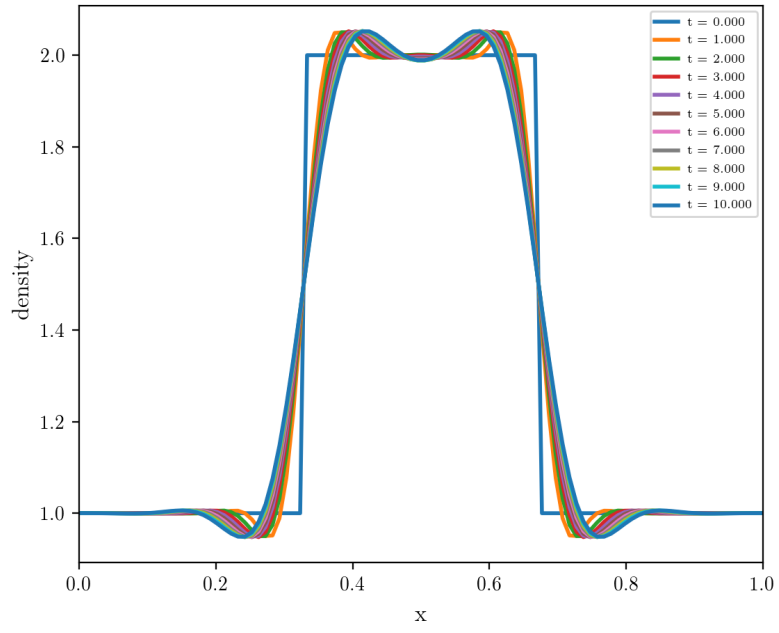**Figure 8:** Obtained result 2D negative velocity

6

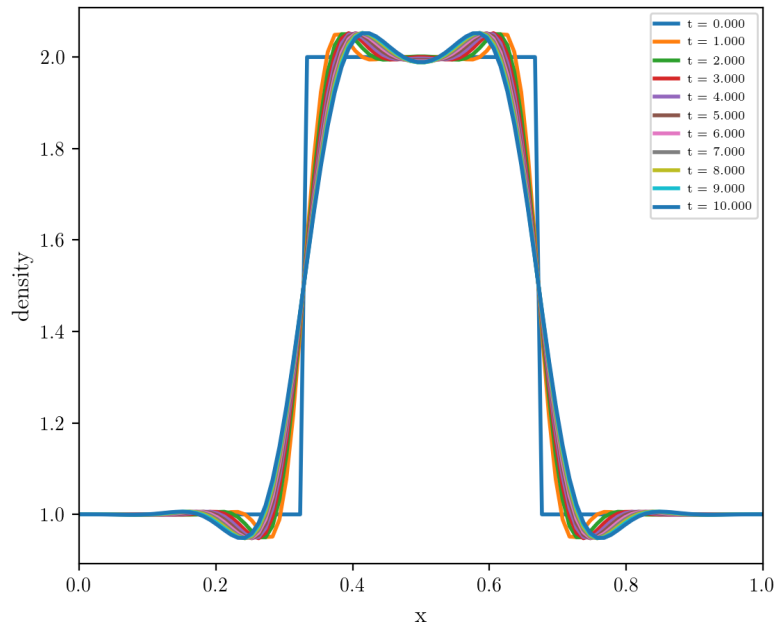## 1.2 Piecewise Linear

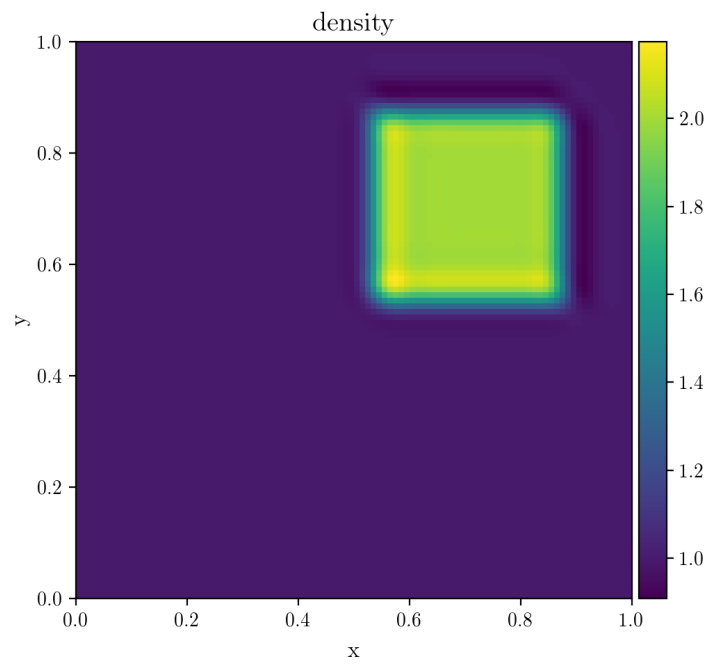**Figure 9:** Expected result 1D
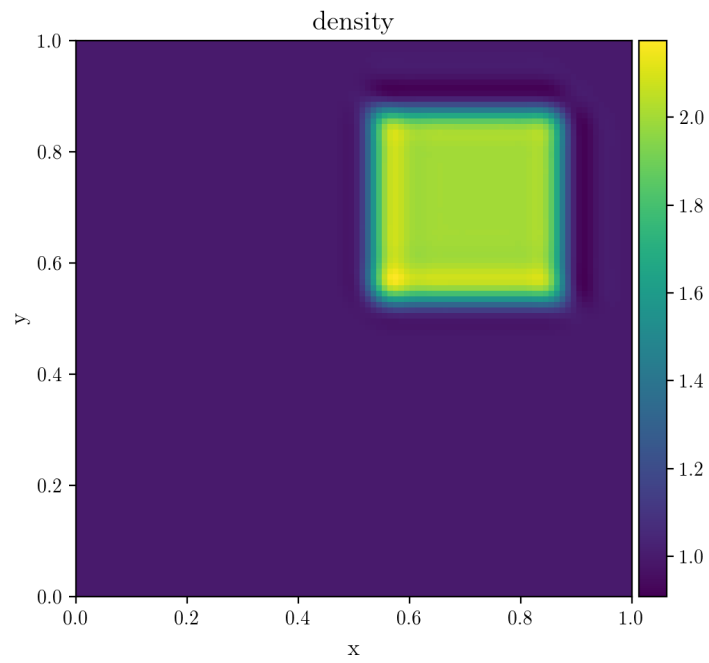

Figure 10: Obtained result 1D

8

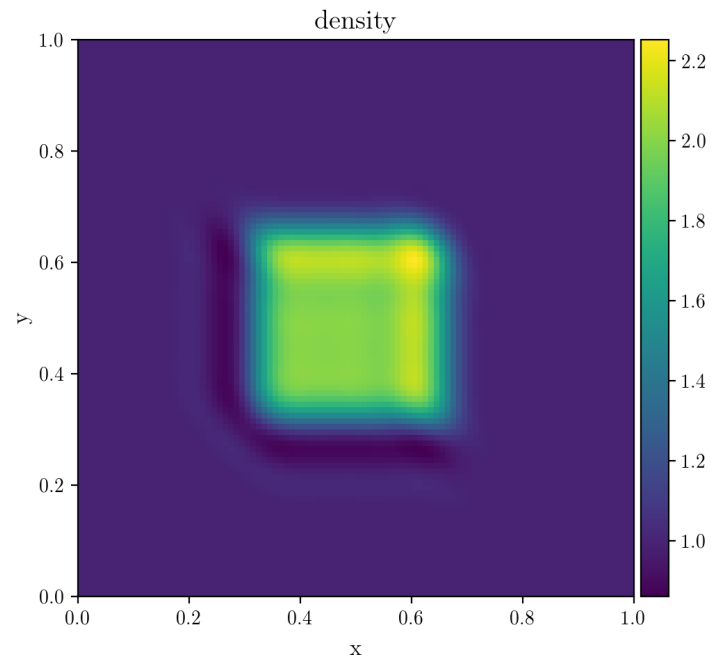**Figure 11:** Expected result 1D negative velocity

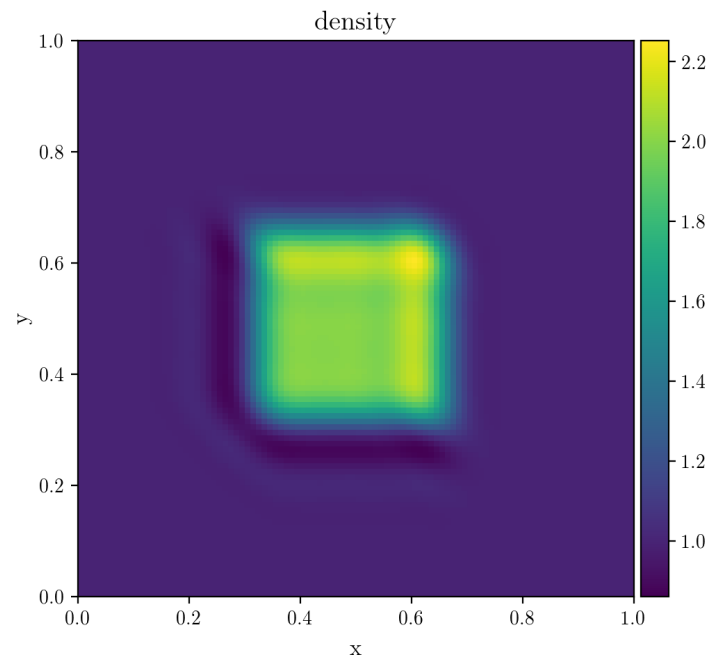**Figure 12:** Obtained result 1D negative velocity

9

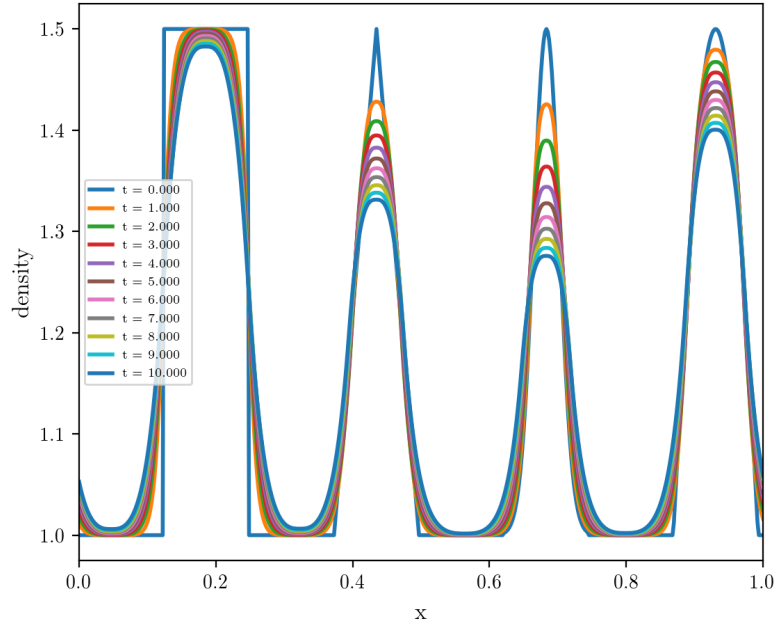**Figure 13:** Expected result 2D

Figure 14: Obtained result 2D

Figure 15: Expected result 2D negative velocity

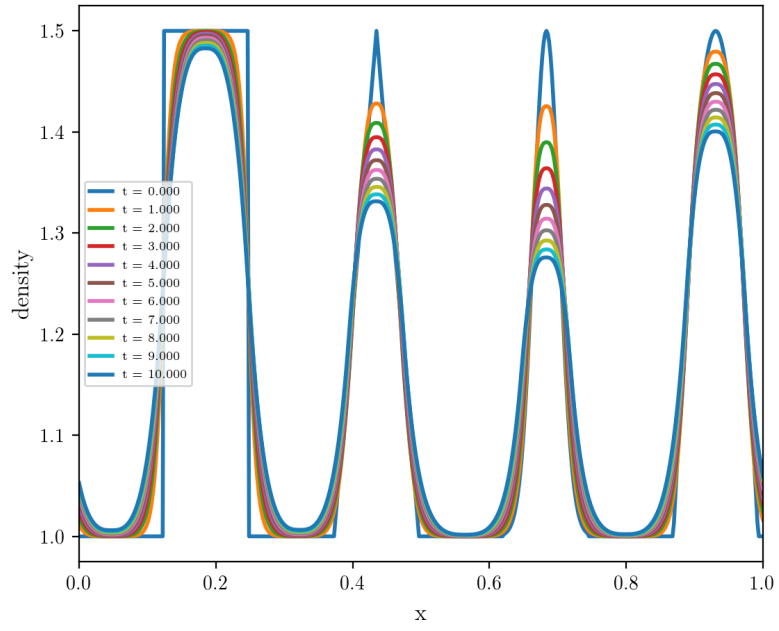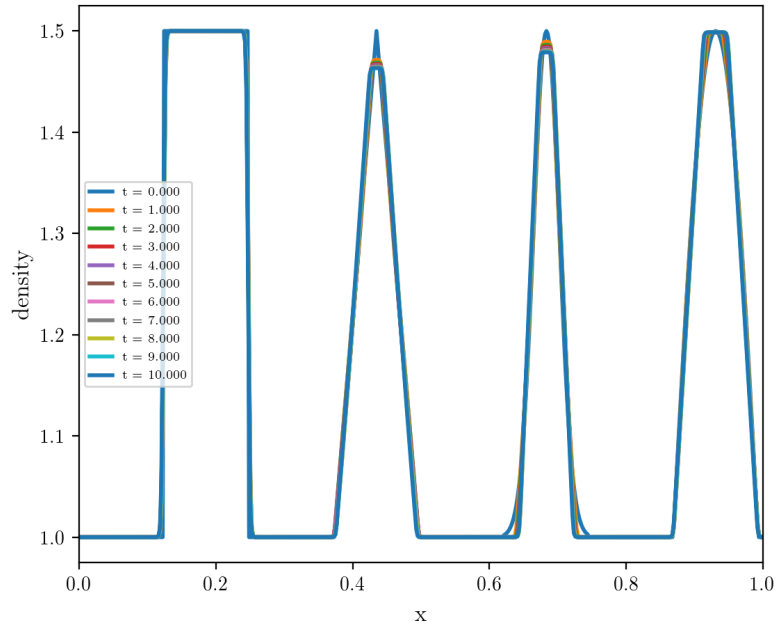
Figure 16: Obtained result 2D negative velocity
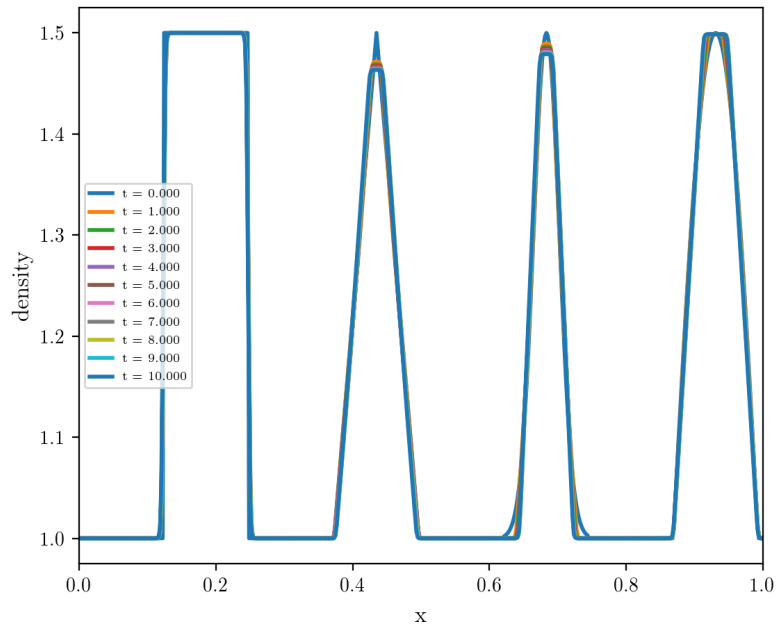
1.3 Piecewise Linear with Slope Limiters
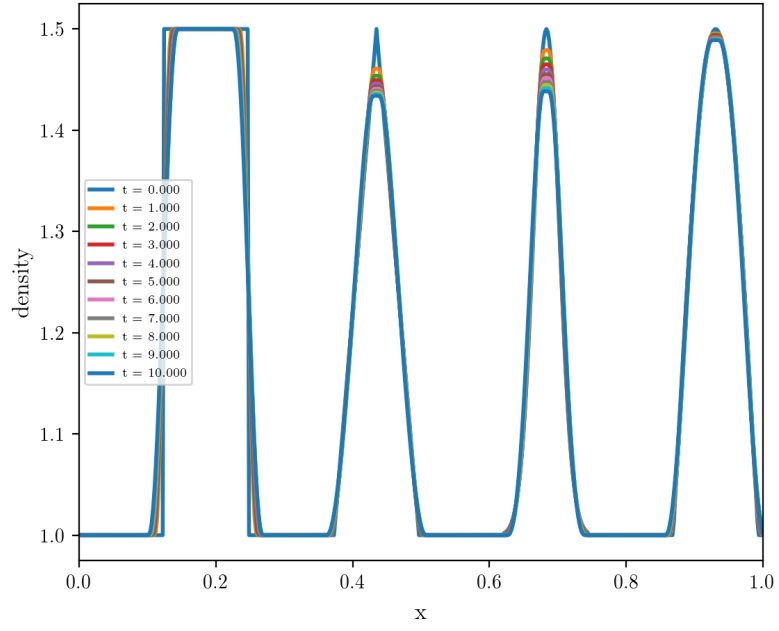
Figure 17: Minmod Slope Limiter. Expected result 1D

Figure 18: Minmod Slope Limiter. Obtained result 1D
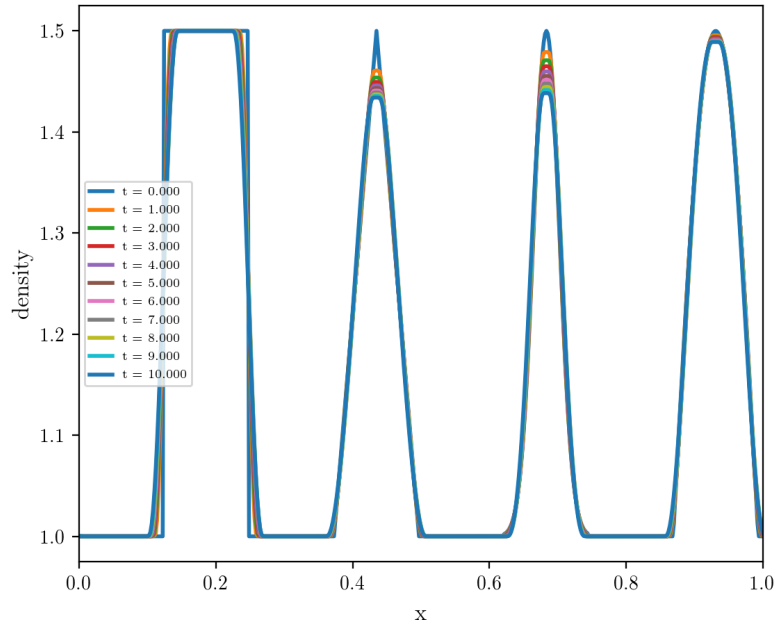
13

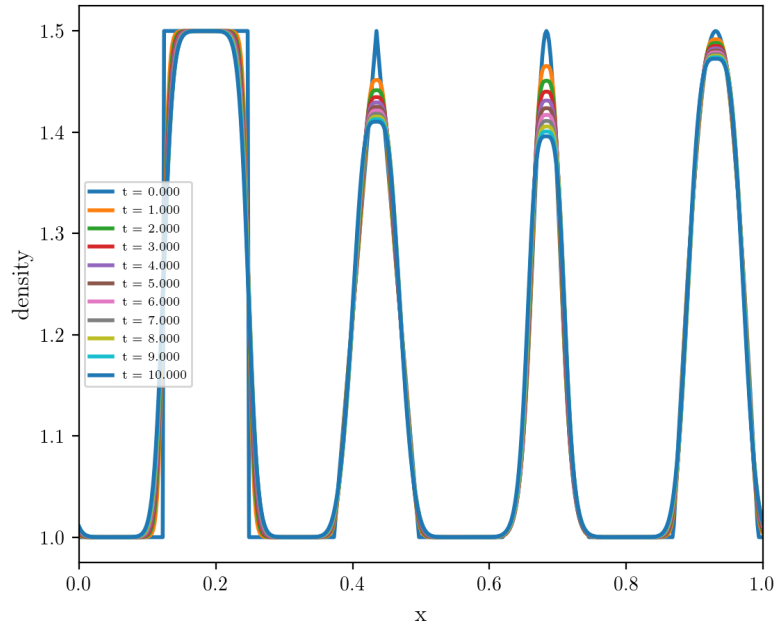**Figure 19:** Superbee slope limiter. Expected result 1D negative velocity

Figure 20: Superbee slope limiter. Obtained result 1D negative velocity
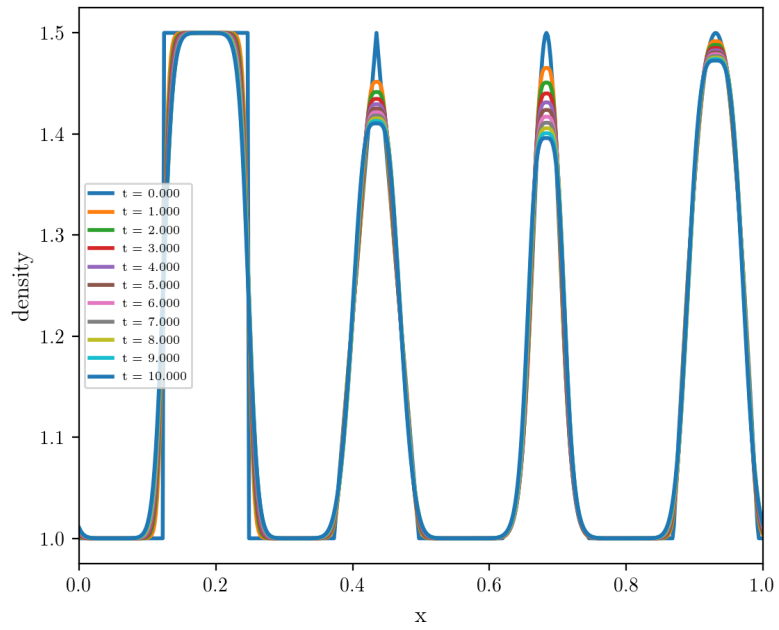
14

Figure 21: Monotonized central limiter. Expected result 1D

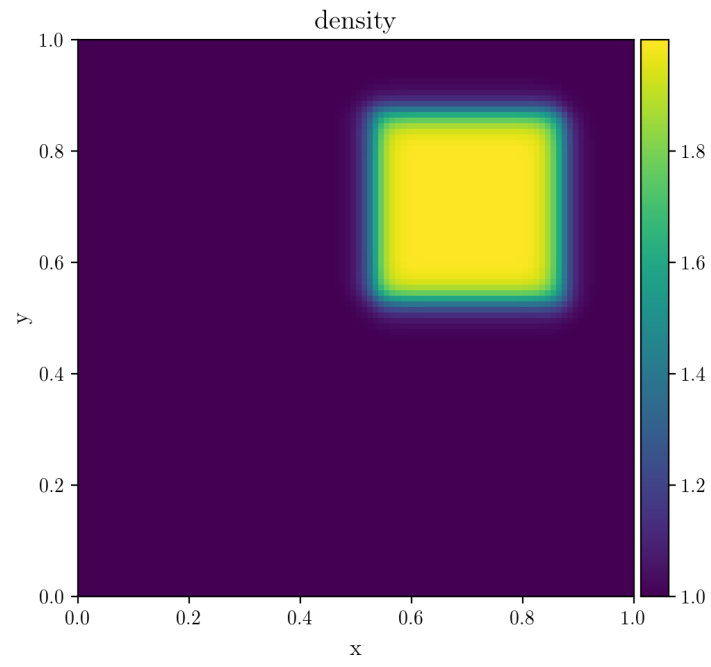**Figure 22:** Monotonized central limiter. Obtained result 1D

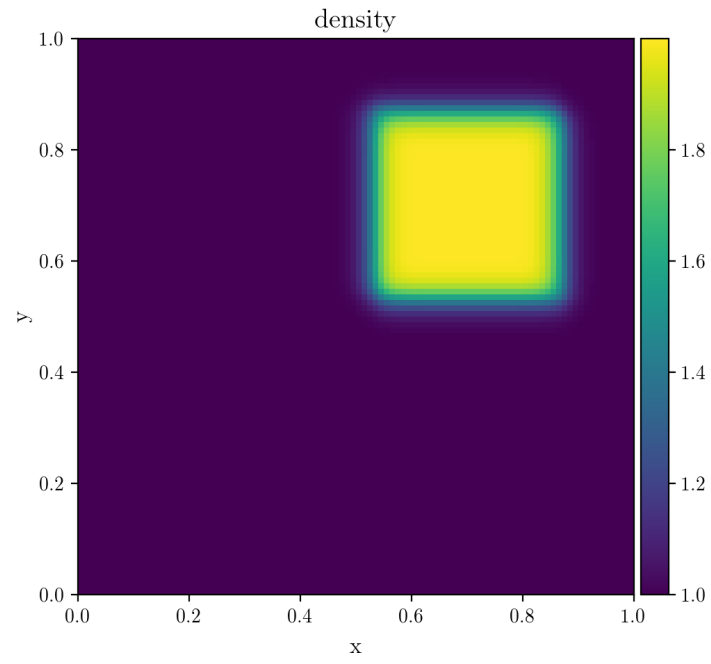**Figure 23:** Van Leer Limiter. Expected result 1D

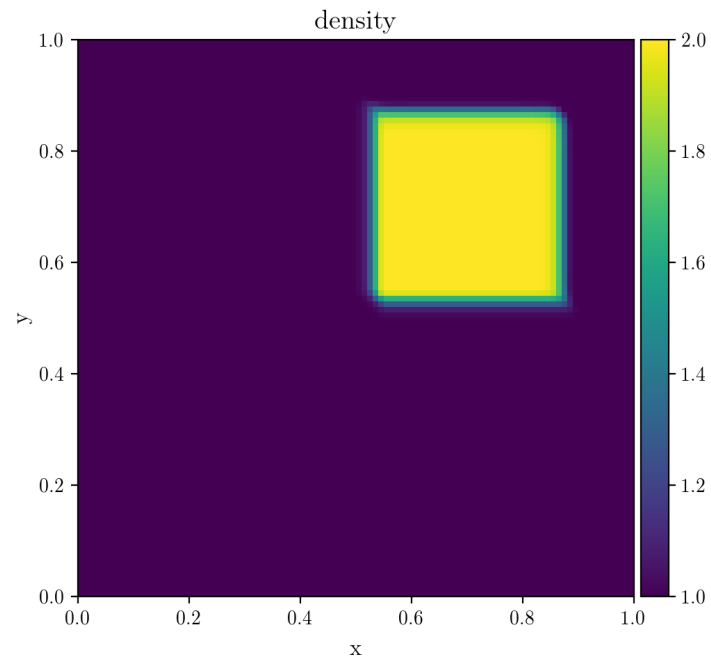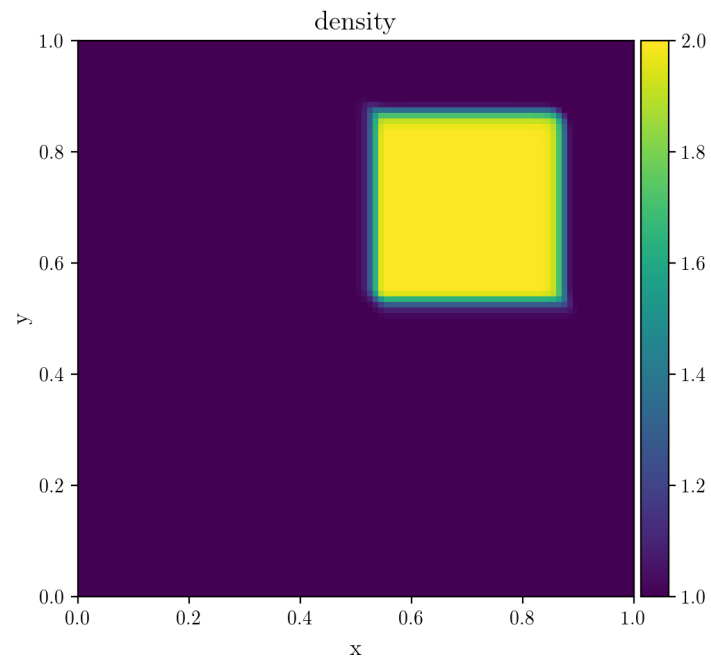**Figure 24:** Van Leer Limiter. Obtained result 1D

16

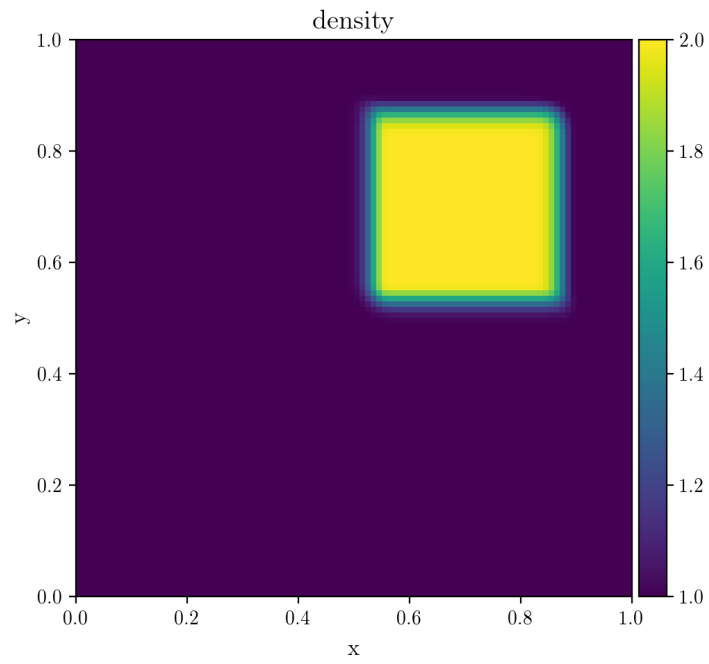**Figure 25:** Minmod Slope Limiter. Expected result 2D

Figure 26: Minmod Slope Limiter. Obtained result 2D
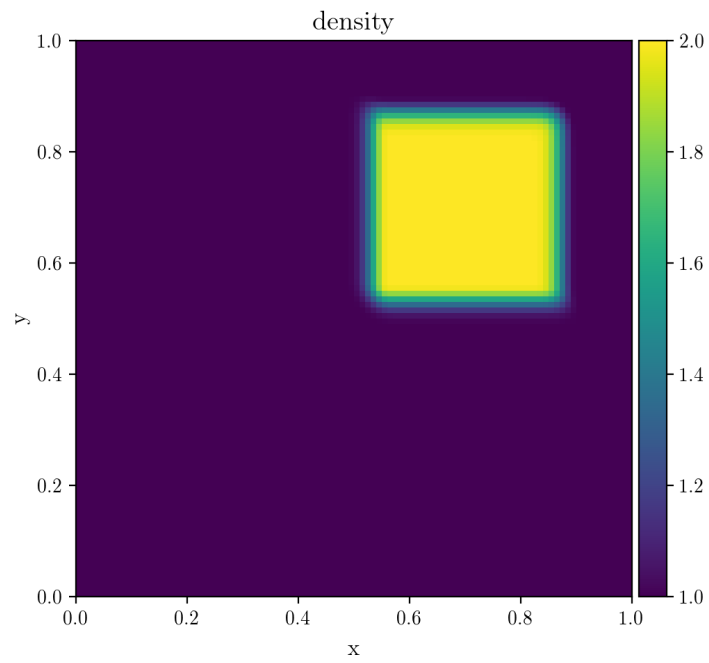
17

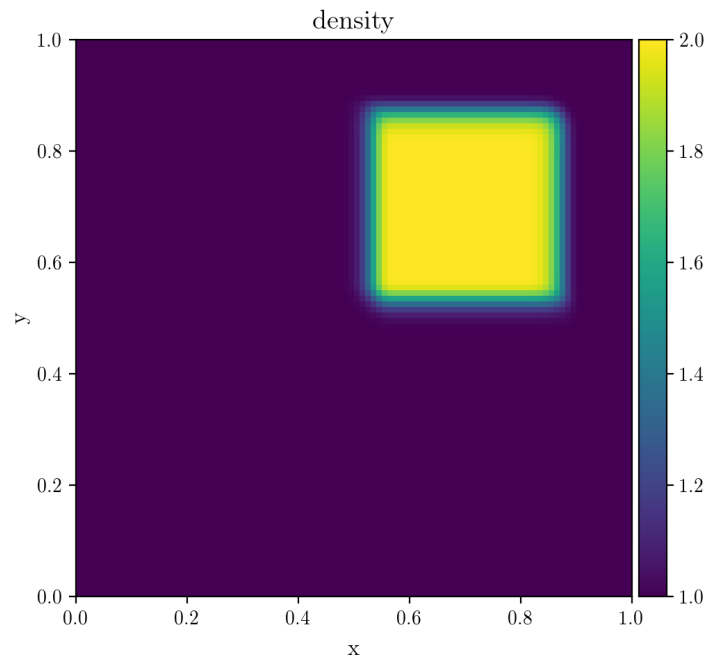**Figure 27:** Superbee slope limiter. Expected result 2D negative velocity

Figure 28: Superbee slope limiter. Obtained result 2D negative velocity
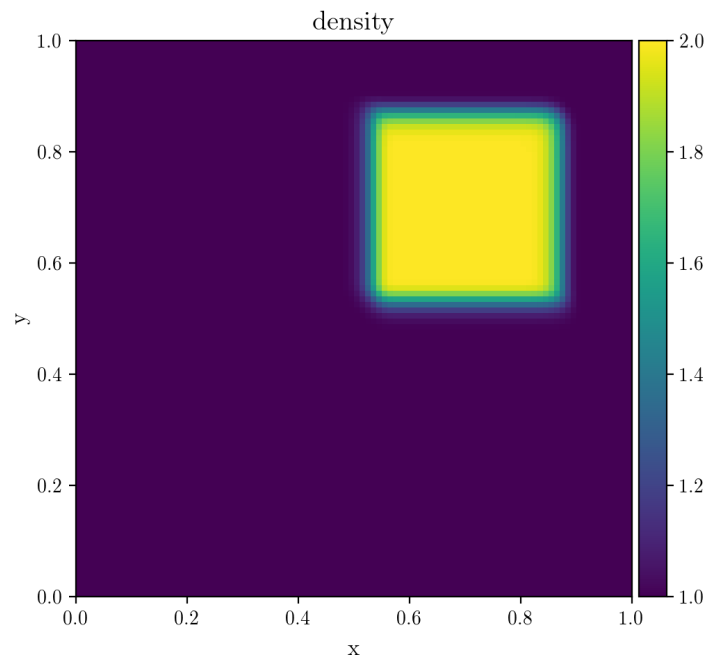
Figure 29: Monotonized central limiter. Expected result 2D

Figure 30: Monotonized central limiter. Obtained result 2D

Figure 31: Van Leer Limiter. Expected result 2D

Figure 32: Van Leer Limiter. Obtained result 2D