

## 1 Question 1

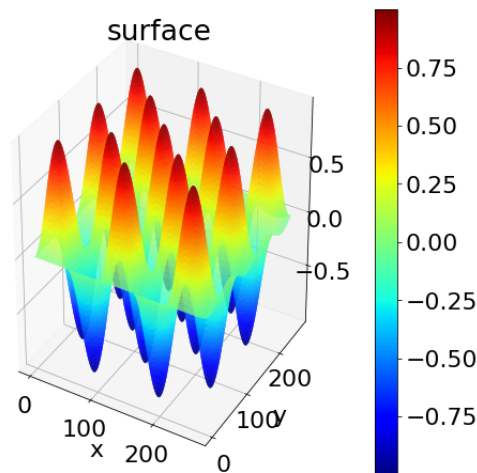


Figure 1: Surface plot of global solution, order 8, at time 0

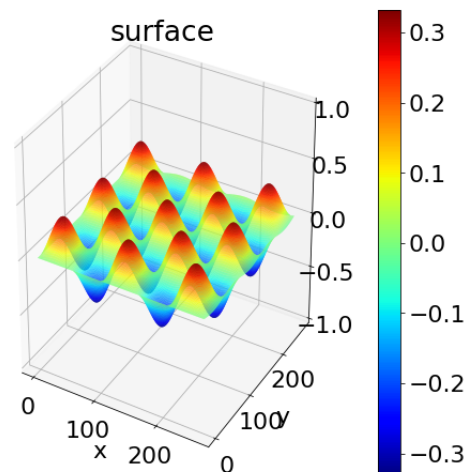


Figure 2: Surface plot of global solution, order 8, at time 1000

## 2 Question 2

See code

## 3 Question 3

The algorithms were all run for 400 timesteps. For the block algorithm we used 8 steps per thread in the y direction and 8 threads per block in the y direction. In total we used 256 threads per block.

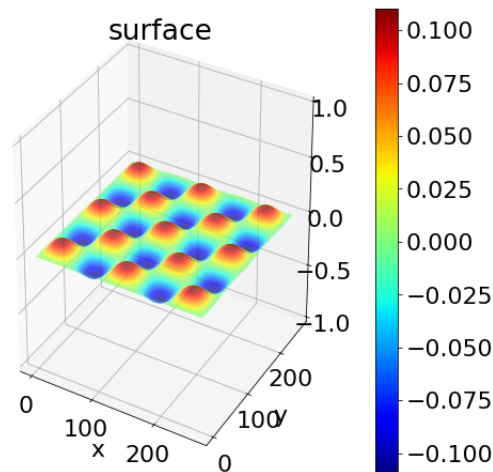


Figure 3: Surface plot of global solution, order 8, at time 2000

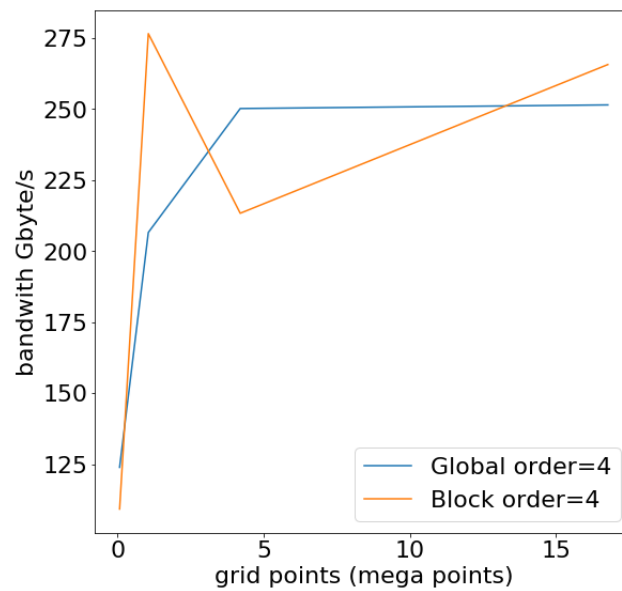


Figure 4: Comparison of bandwidth for Global and Block algorithm of order 4

## 4 Question 4

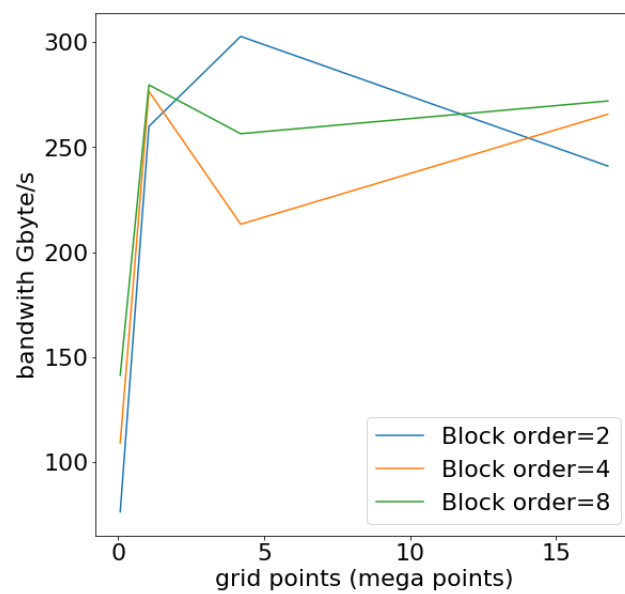


Figure 5: Comparison of bandwidth for Block algorithm of varying order