Fluid Dynamics Assignment II

Note that the concentration bar is changing

The initial values according to my roll number are as follows (x0, y0) = (4.283, 1.717)

The plots are as follows:-

D = 0.001

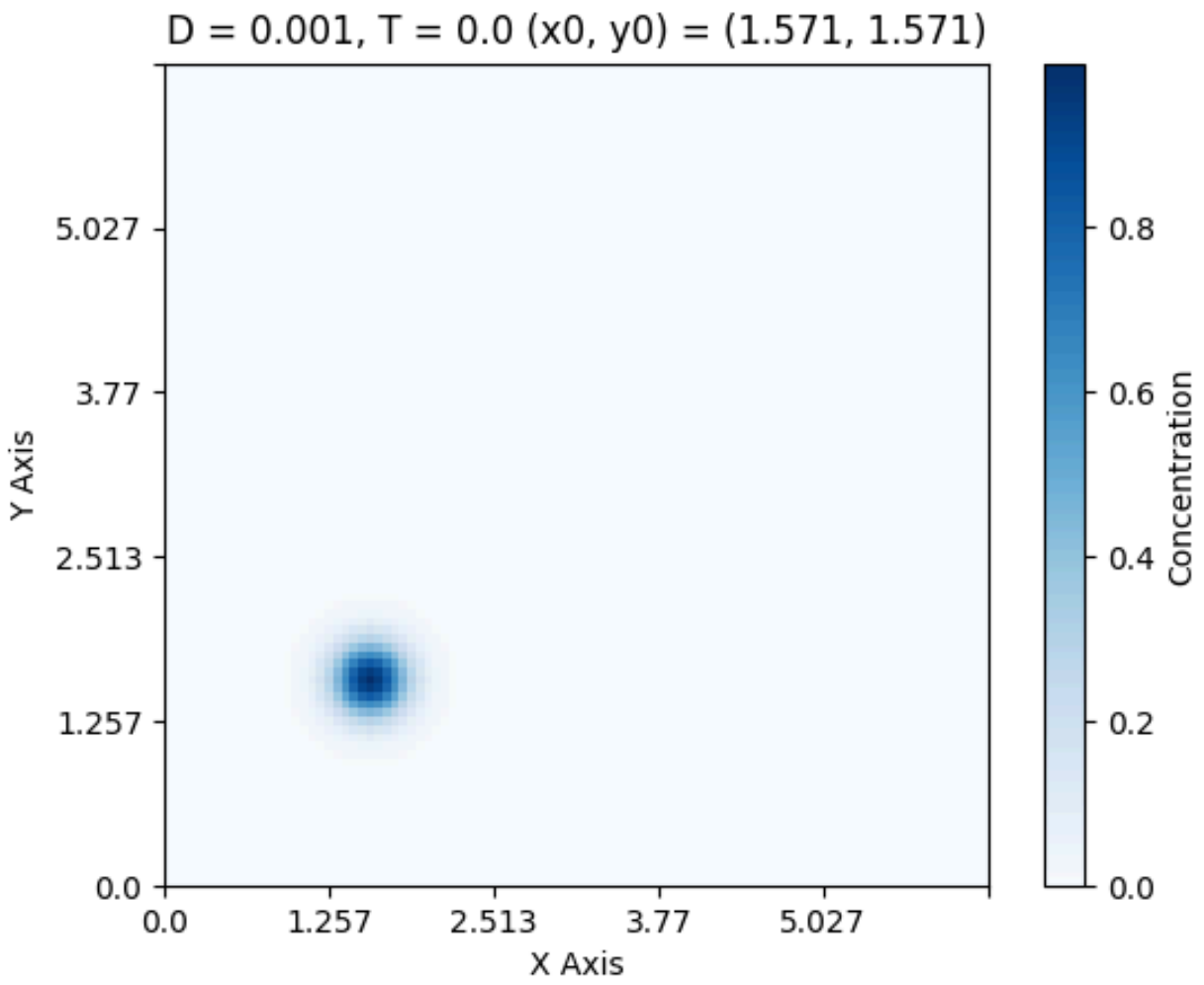
- x0, y0 = pi / 2, pi / 2
- x0, y0 = pi , pi
- x0, y0 = 4.283, 1.717

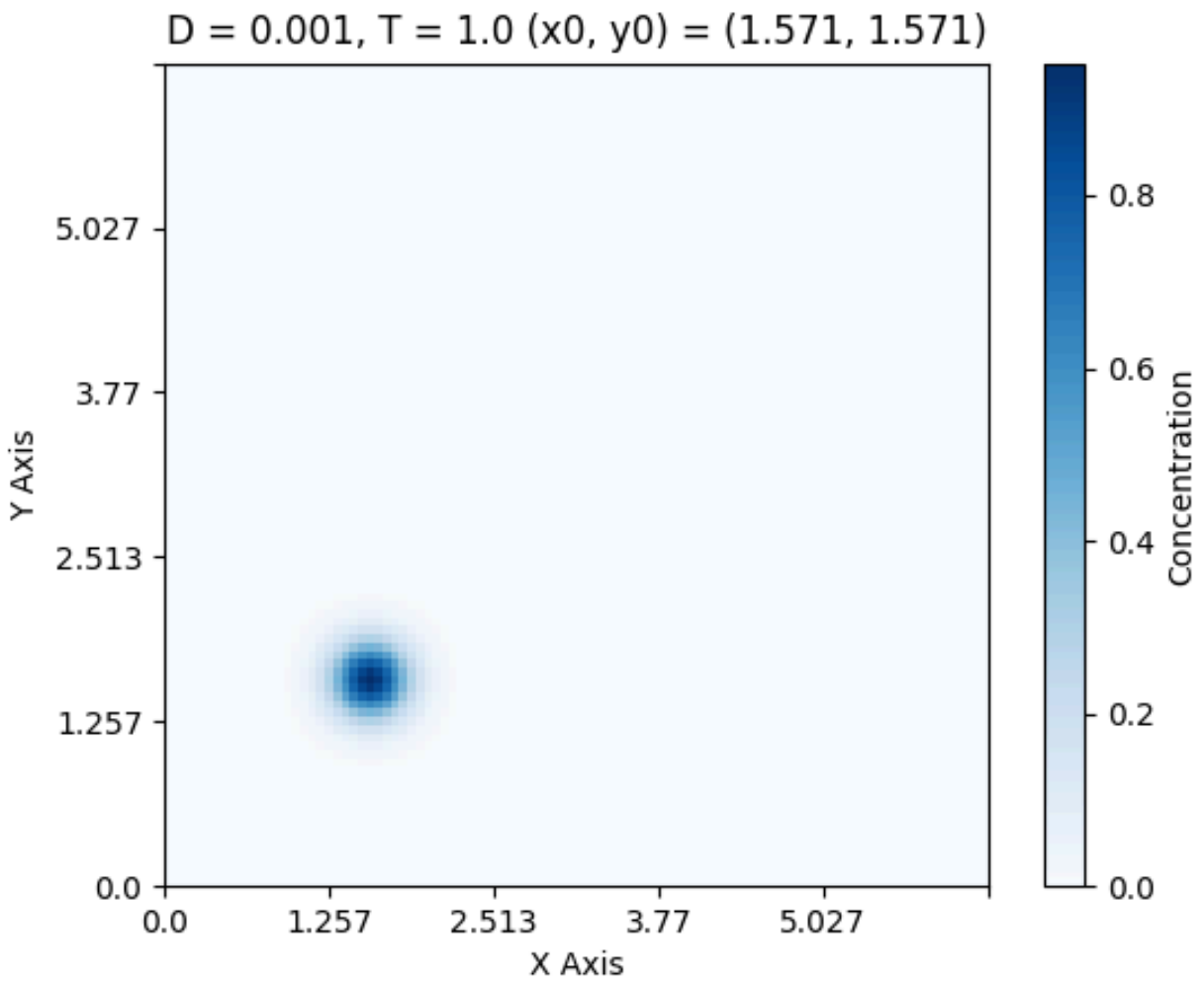
D = 0.01

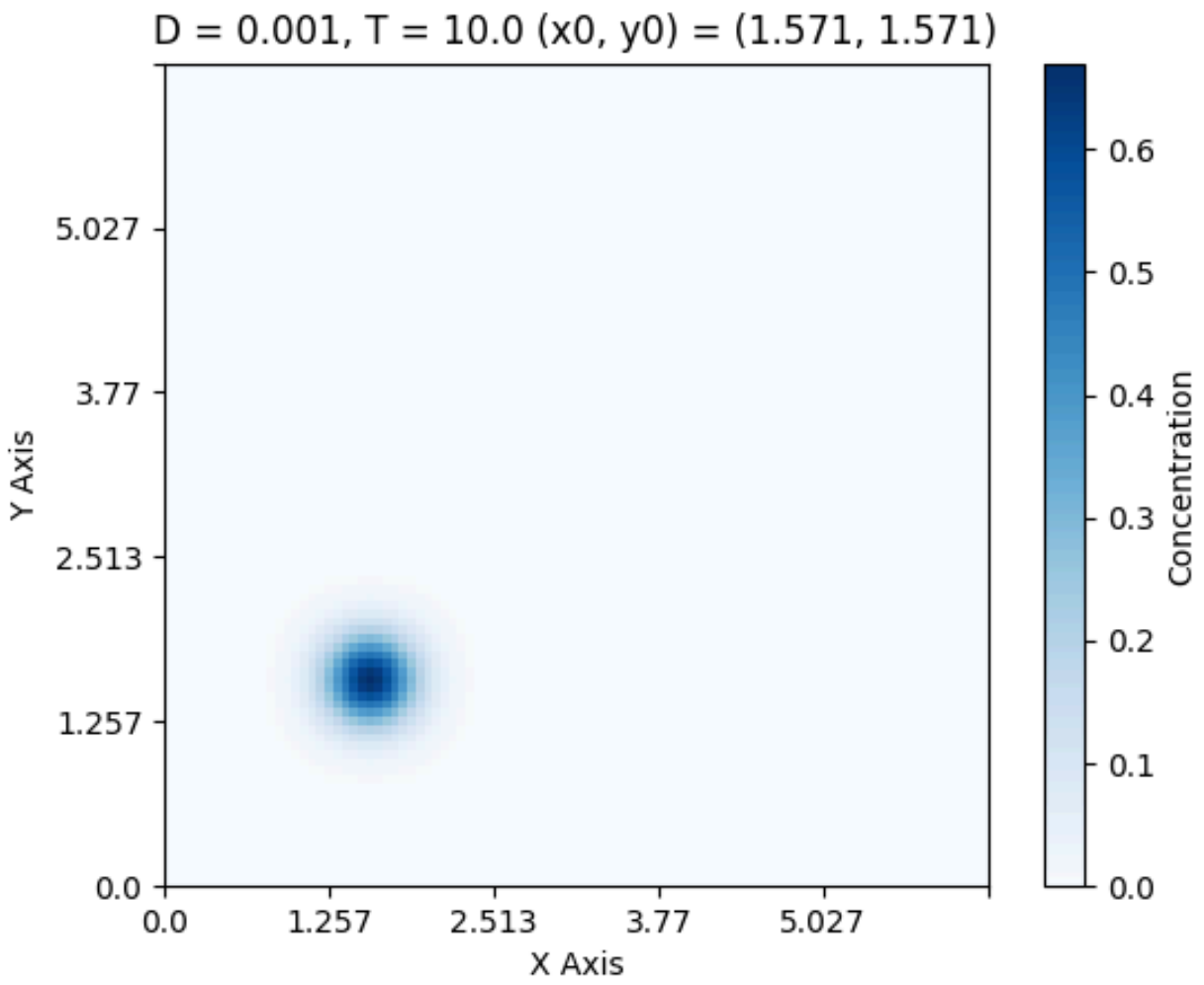
- x0, y0 = pi / 2, pi / 2
- x0, y0 = pi , pi
- x0, y0 = 4.283, 1.717

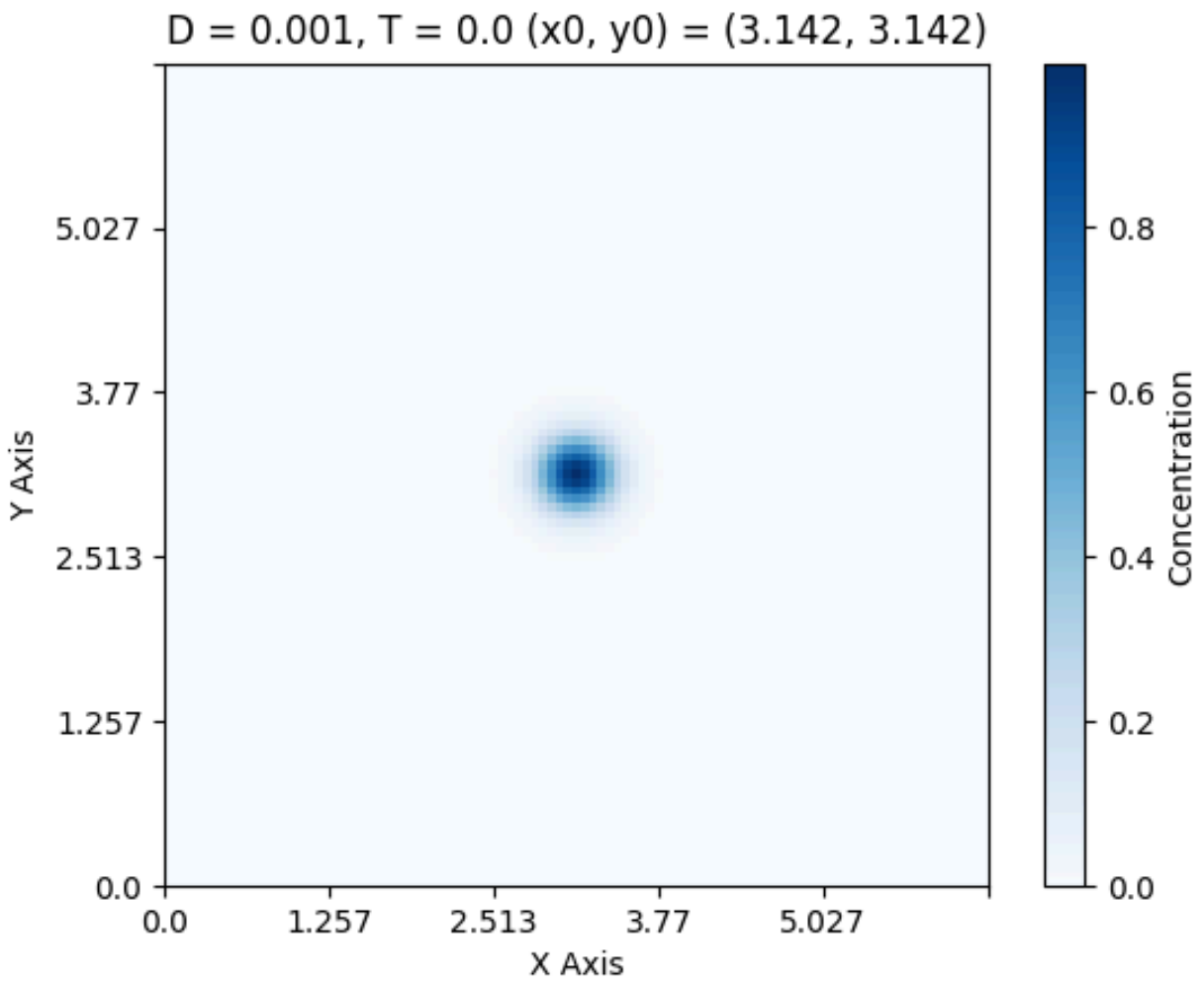
D = 0.1

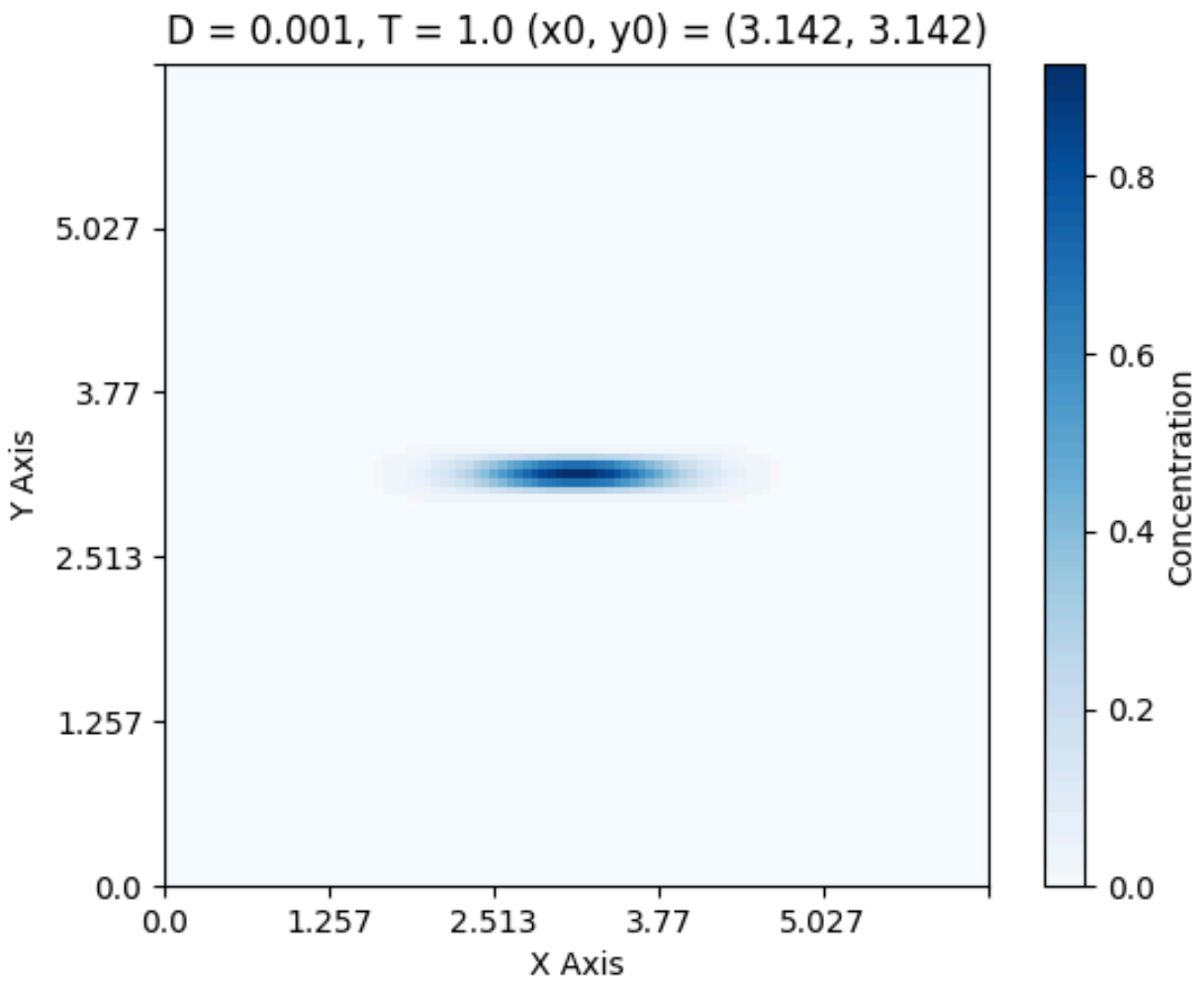
- x0, y0 = pi / 2, pi / 2
- x0, y0 = pi , pi
- x0, y0 = 4.283, 1.717

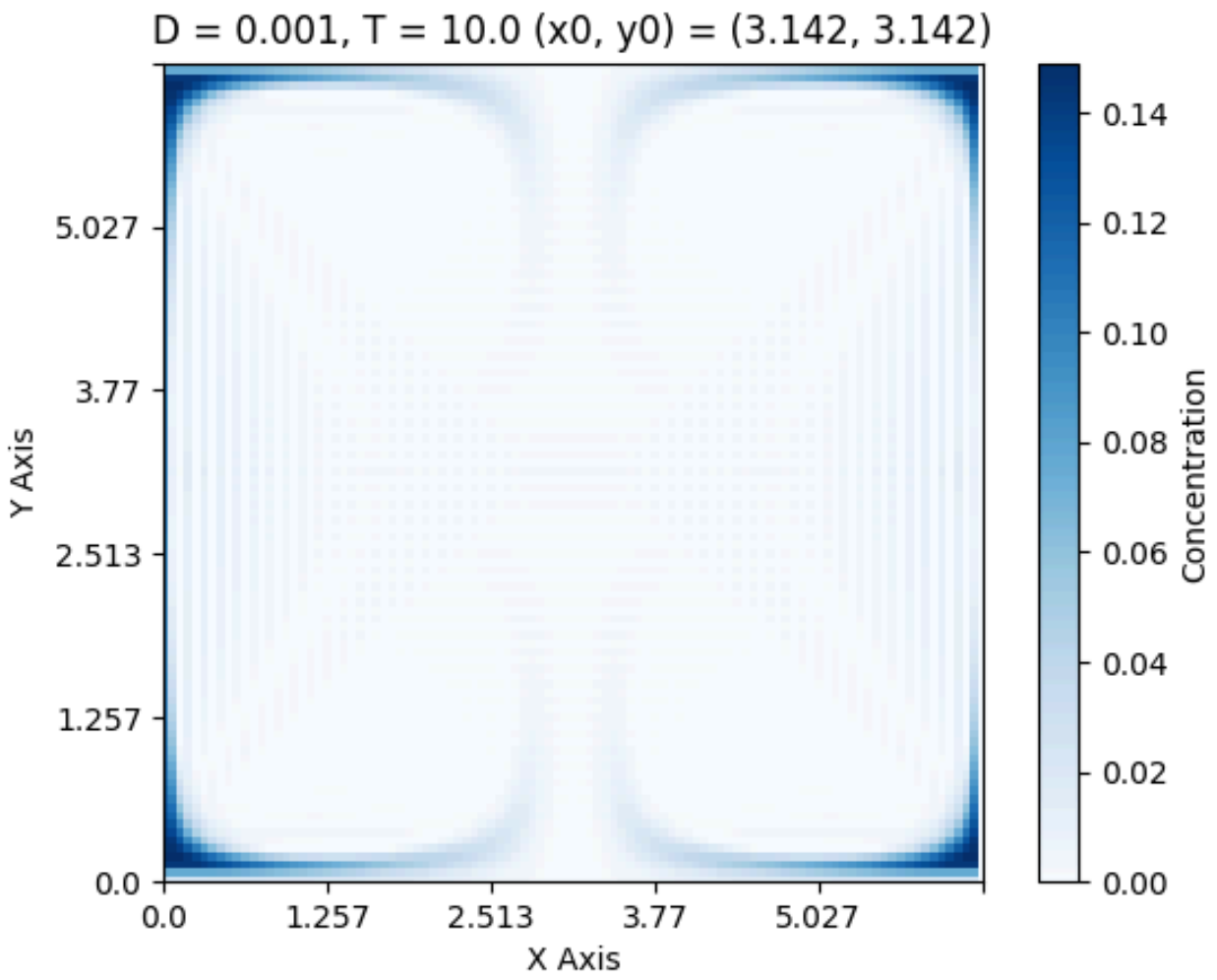

D = 0.001, T = 0.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8

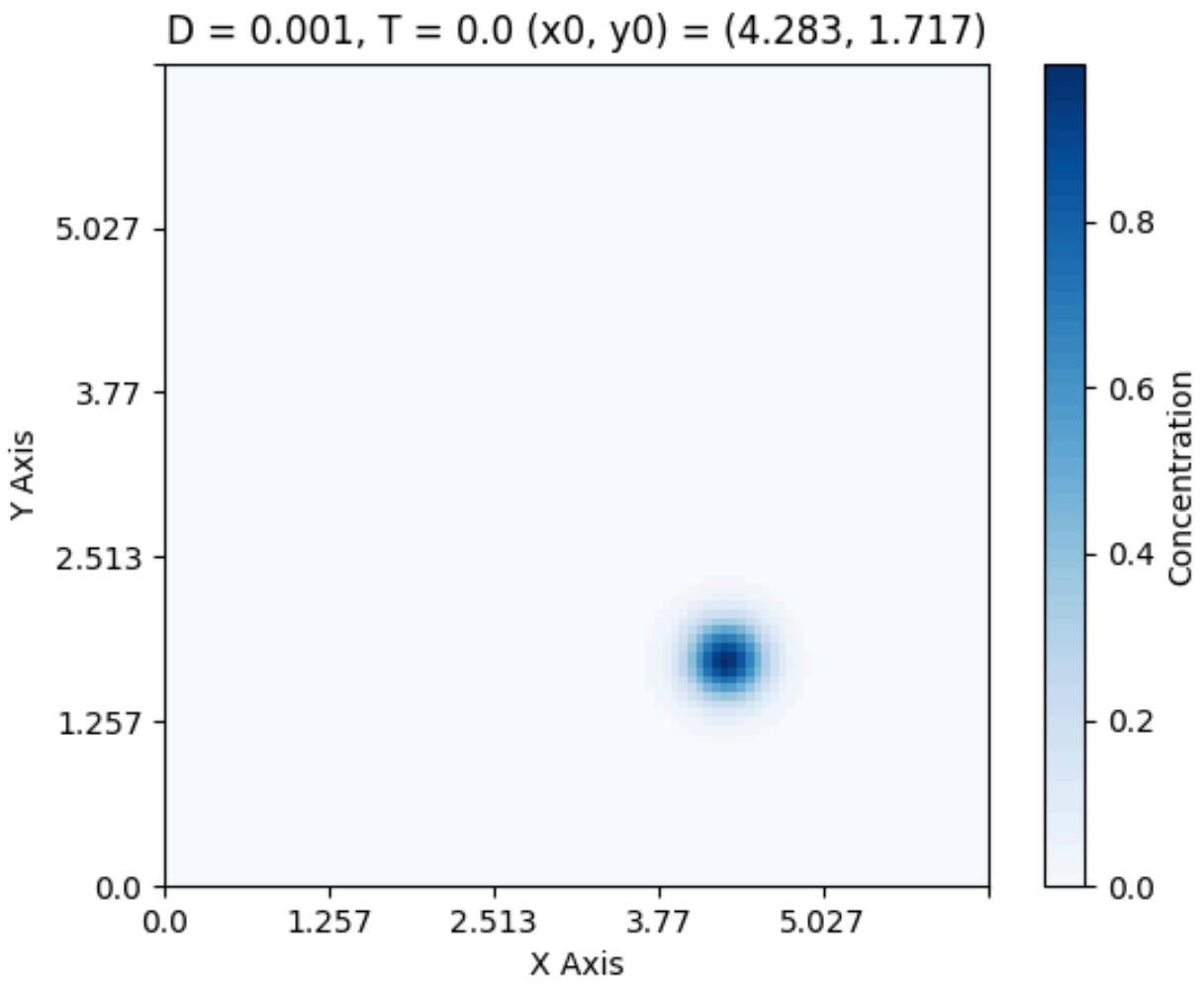

D = 0.001, T = 1.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8

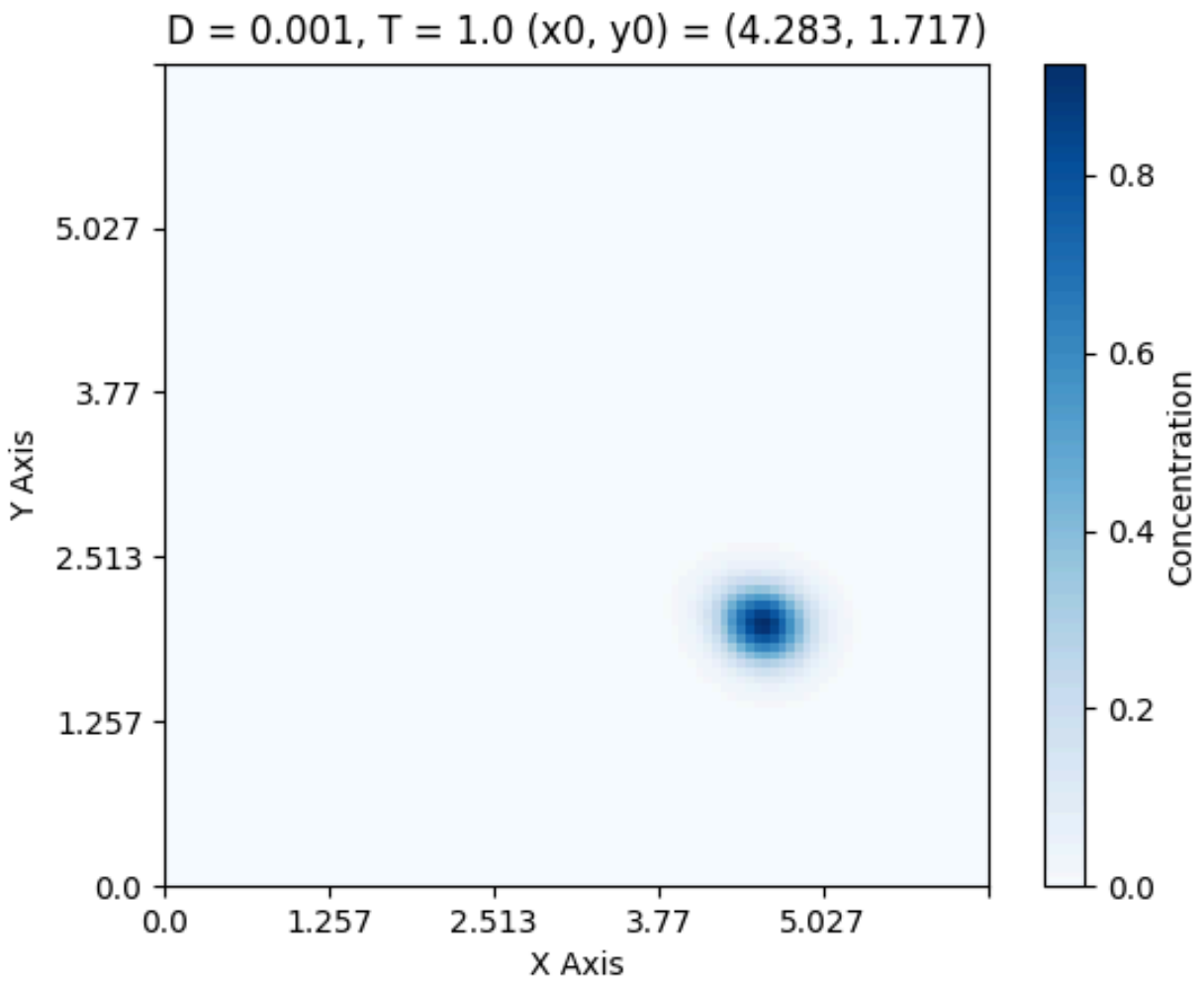

D = 0.001, T = 10.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.1
0.2
0.3
0.4
0.5
0.6

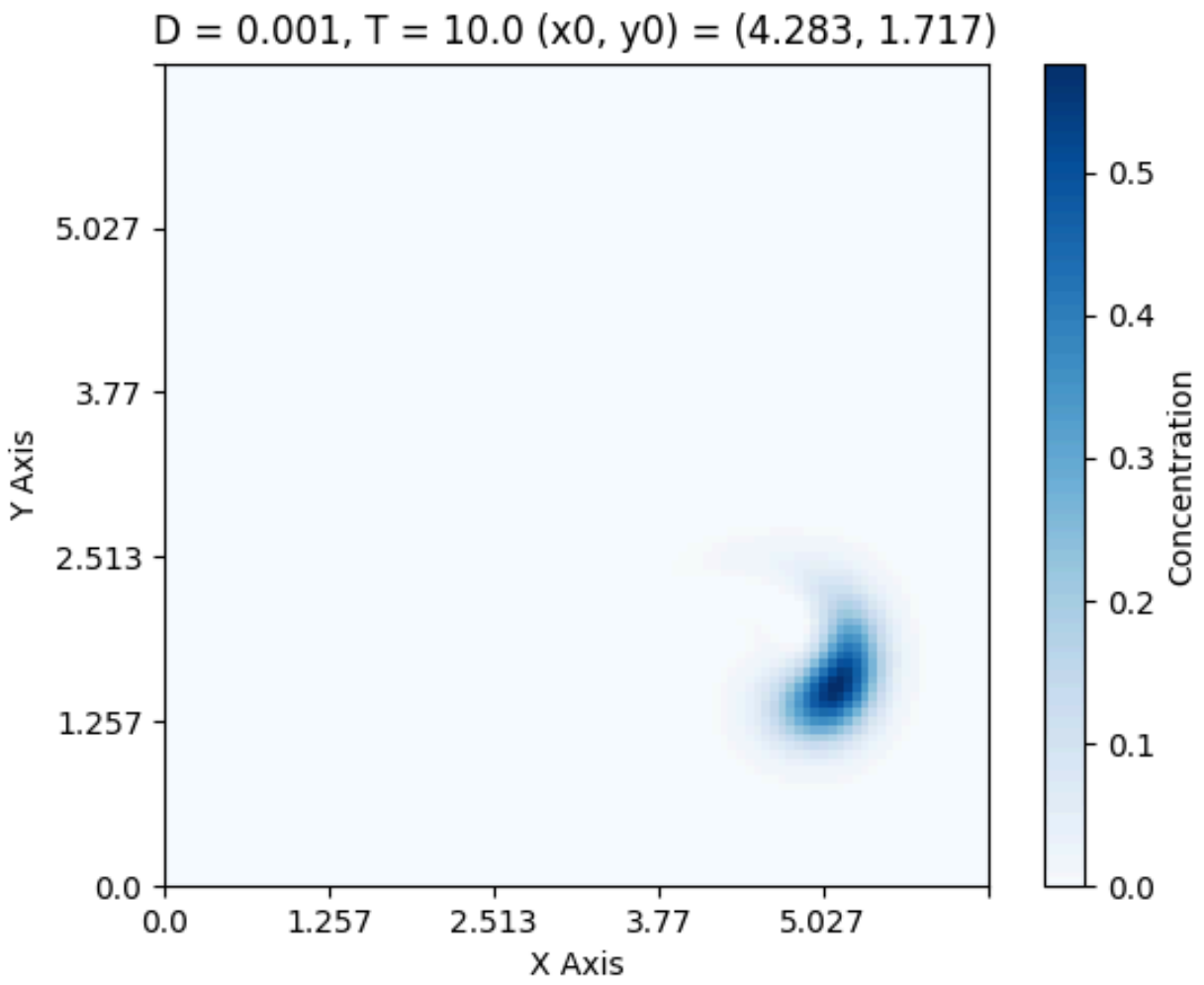

D = 0.001, T = 0.0 (x0, y0) = (3.142, 3.142)
5.027
3.77
2.513
1.257
0.0
Y Axis
0.0
1.257
2.513
3.77
5.027
X Axis
0.8
0.6
0.4
0.2
0.0
Concentration

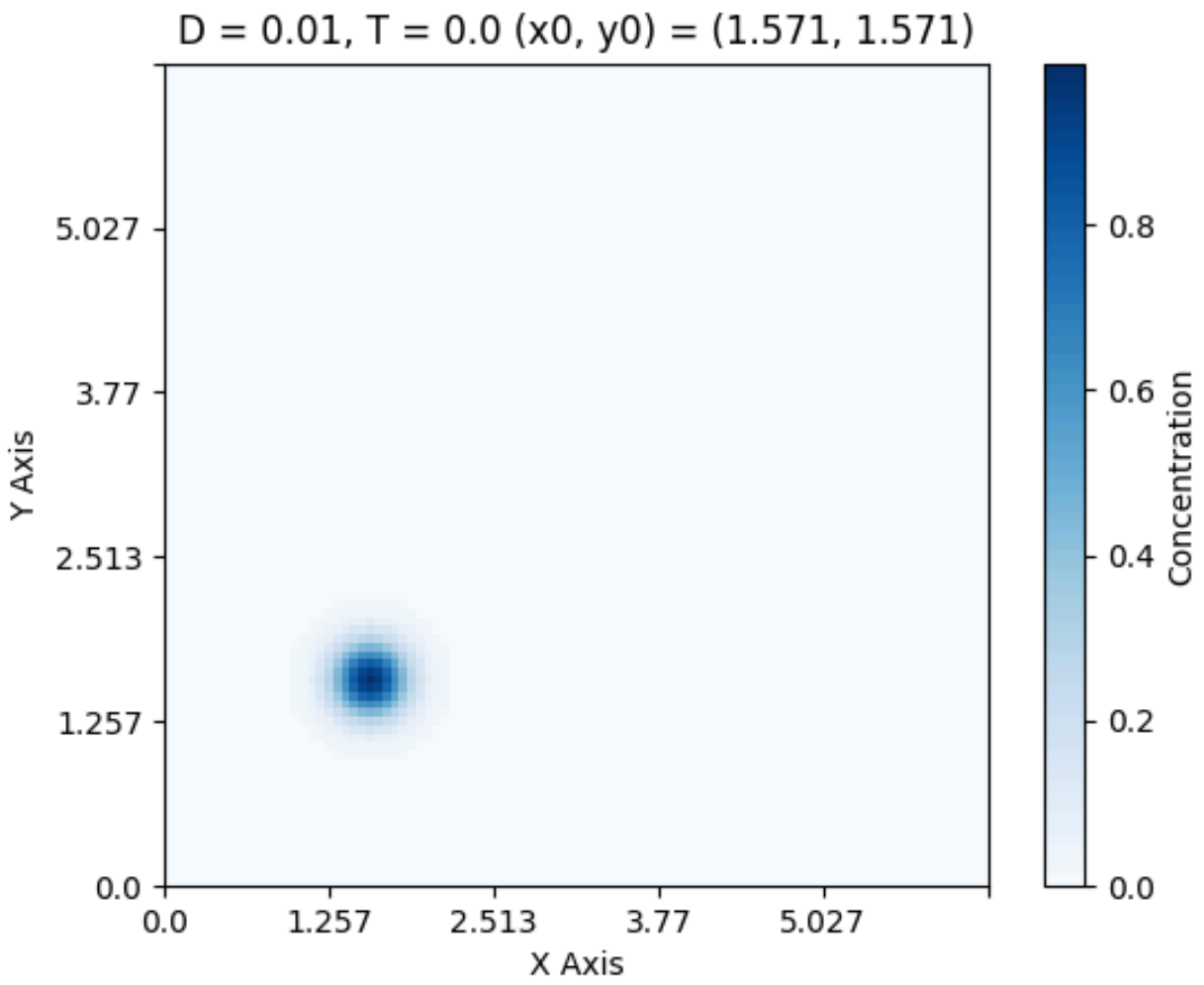

D = 0.001, T = 1.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8

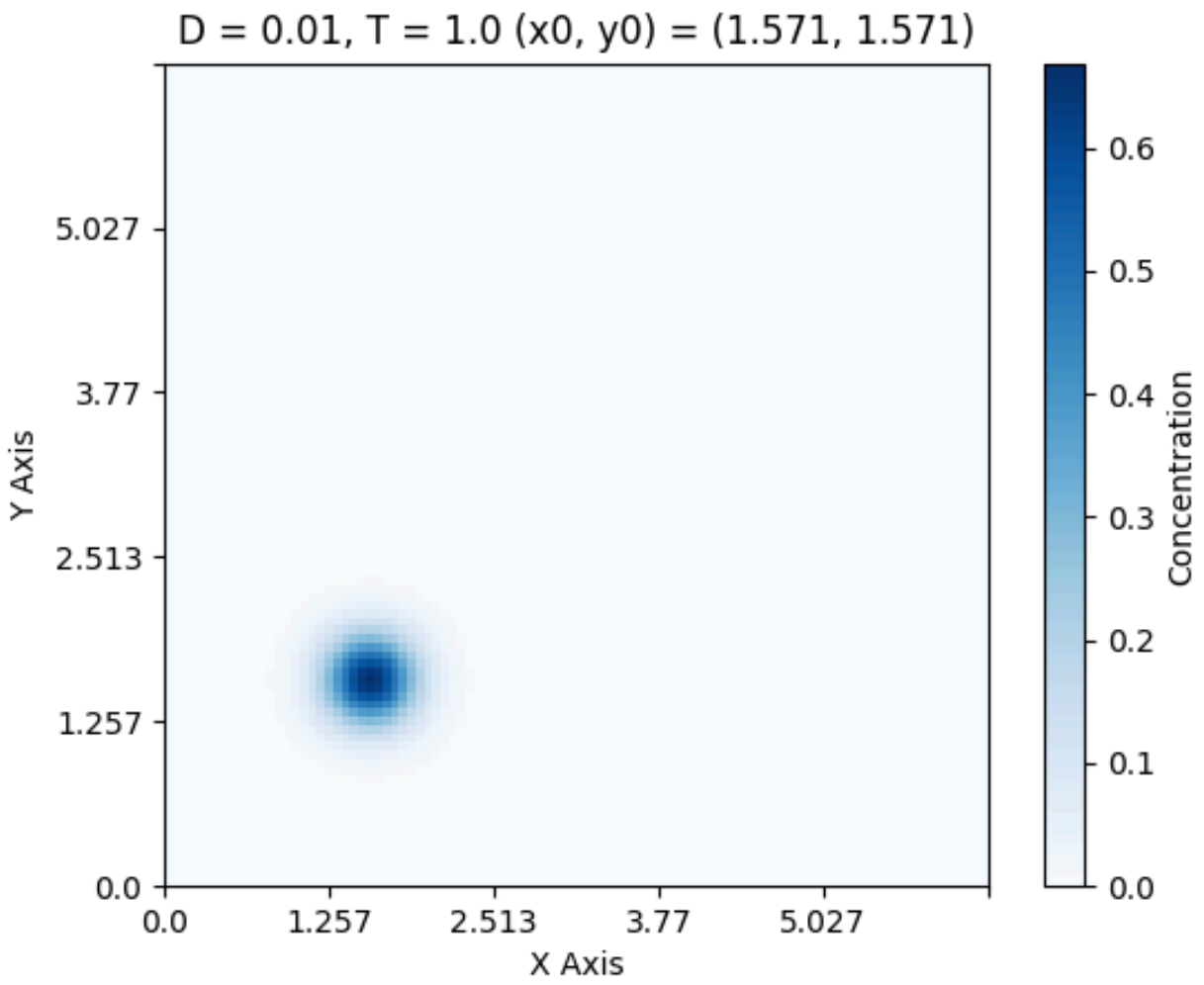

D = 0.001, T = 10.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14

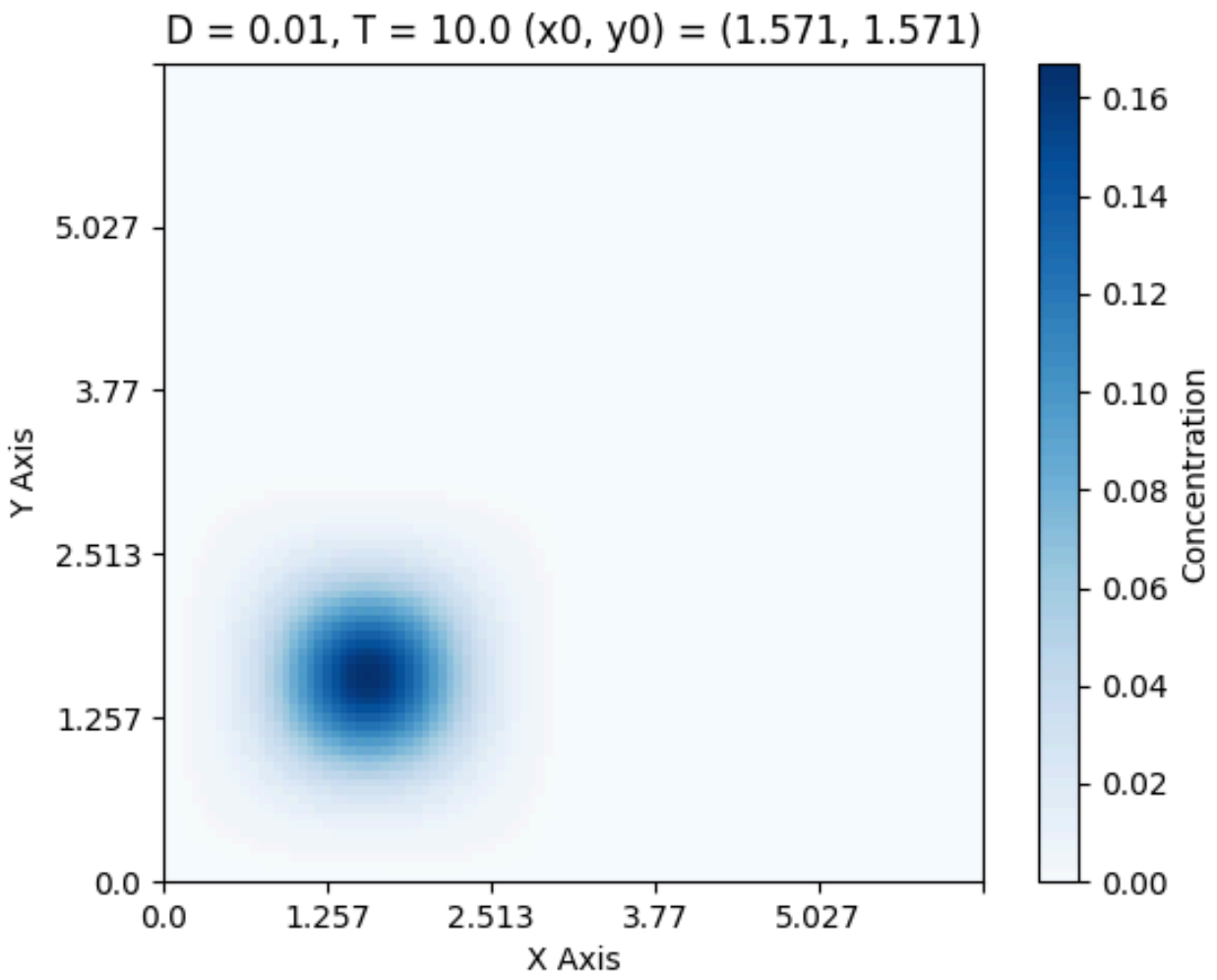

D = 0.001, T = 0.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8

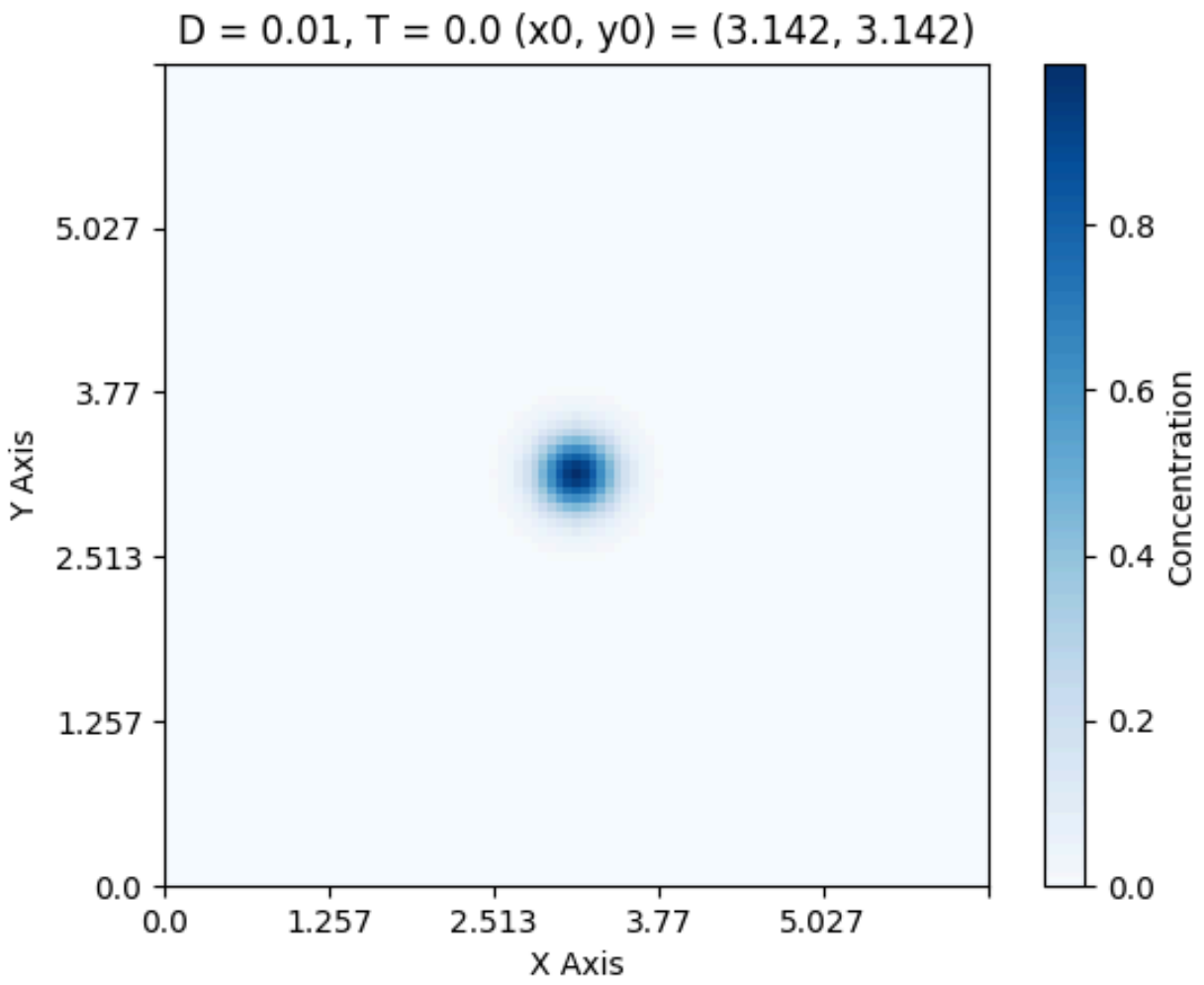

D = 0.001, T = 1.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8

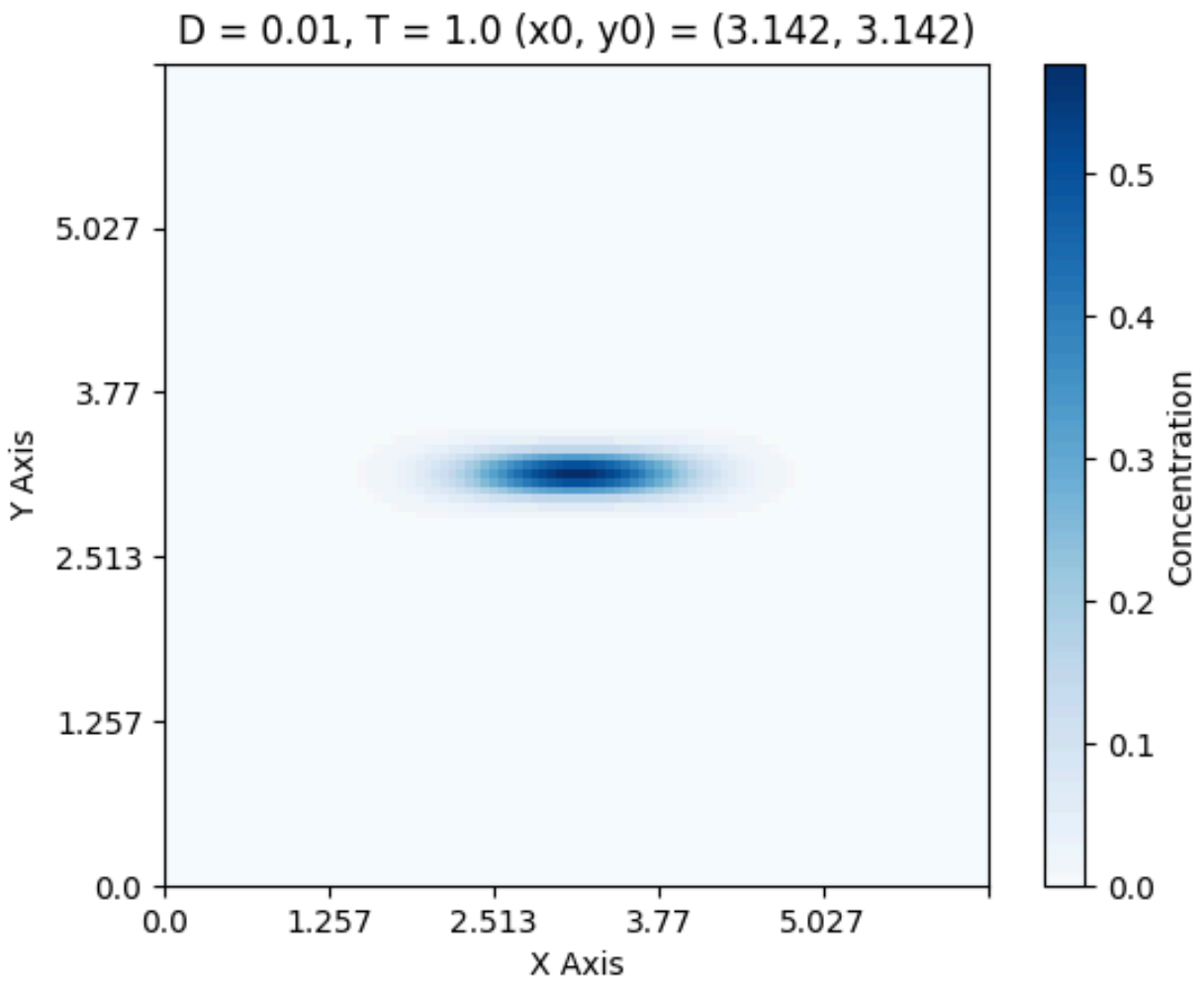

D = 0.001, T = 10.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.1
0.2
0.3
0.4
0.5

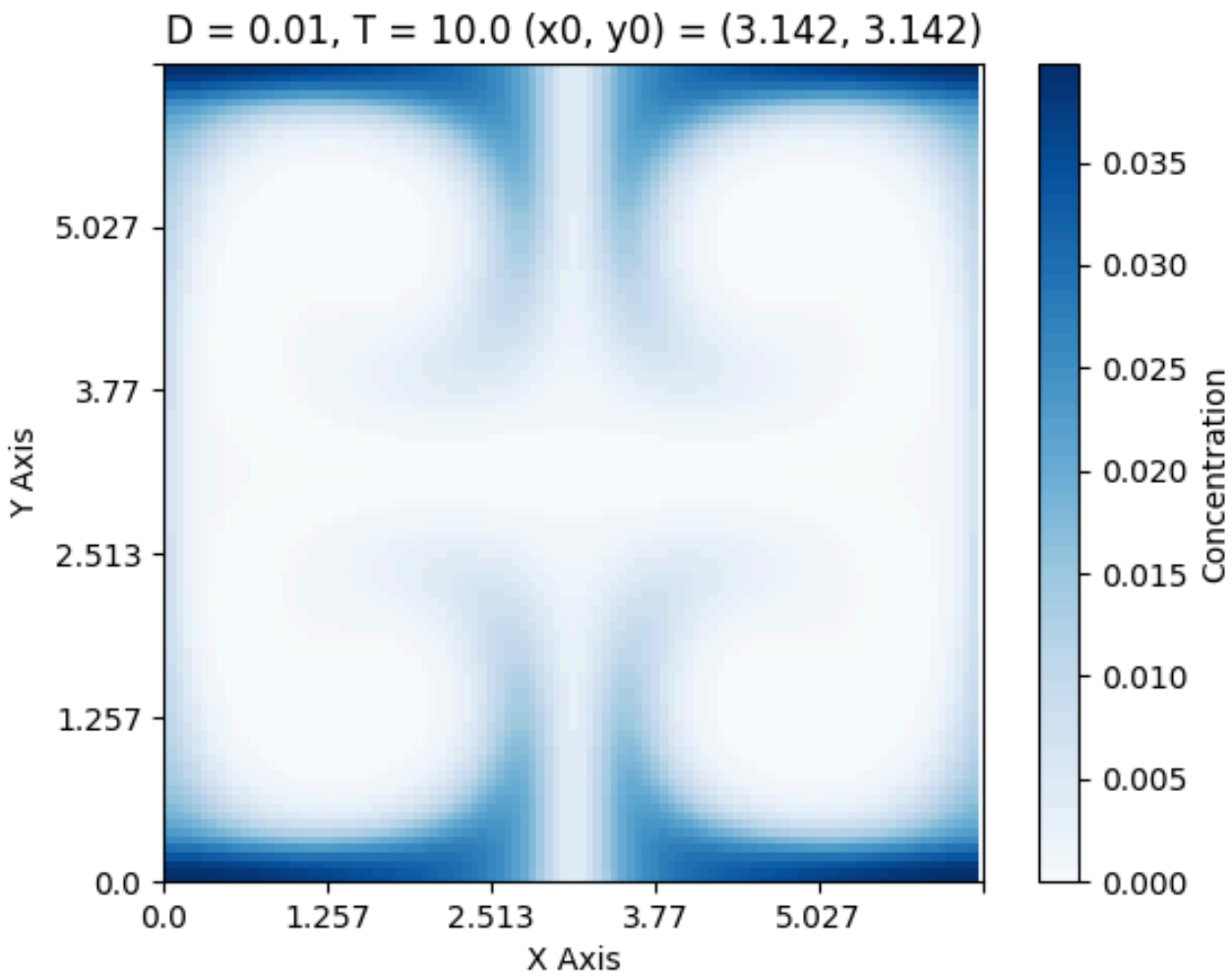

D = 0.01, T = 0.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8


D = 0.01, T = 1.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.1
0.2
0.3
0.4
0.5
0.6


D = 0.01, T = 10.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16


D = 0.01, T = 0.0 (x0, y0) = (3.142, 3.142)
5.027
3.77
2.513
1.257
0.0
Y Axis
0.0
1.257
2.513
3.77
5.027
X Axis
0.8
0.6
0.4
0.2
0.0
Concentration


D = 0.01, T = 1.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.1
0.2
0.3
0.4
0.5


D = 0.01, T = 10.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
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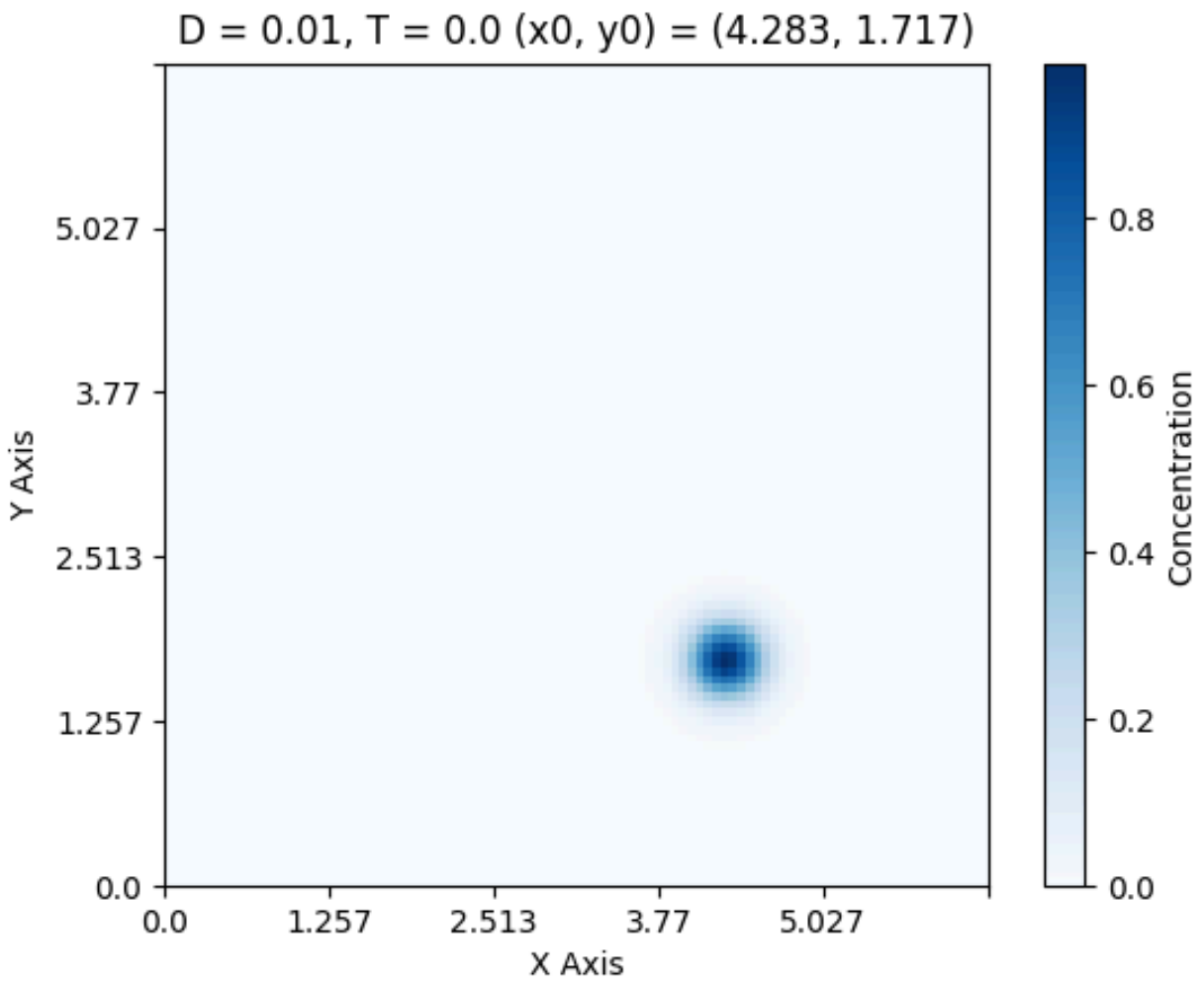
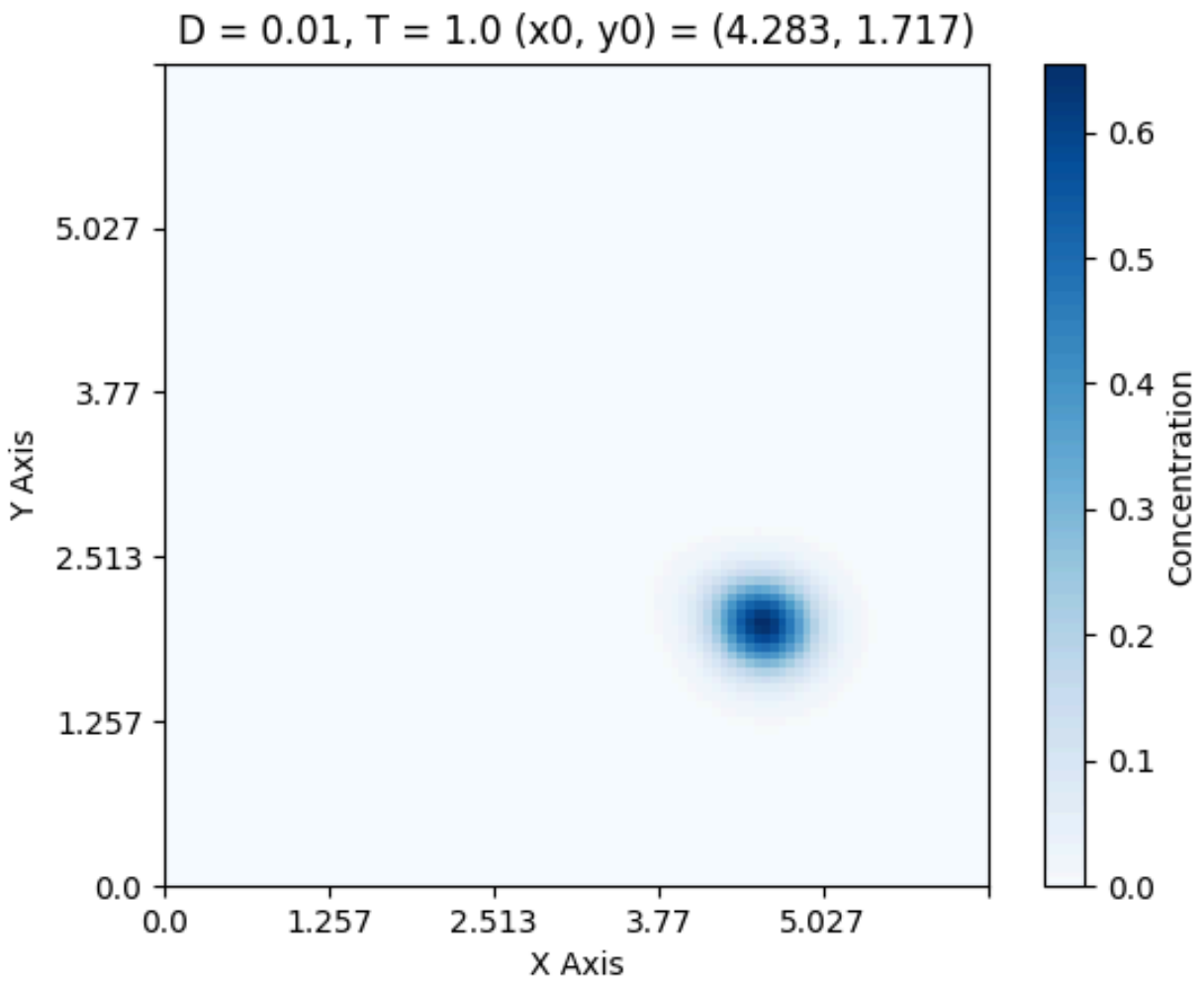
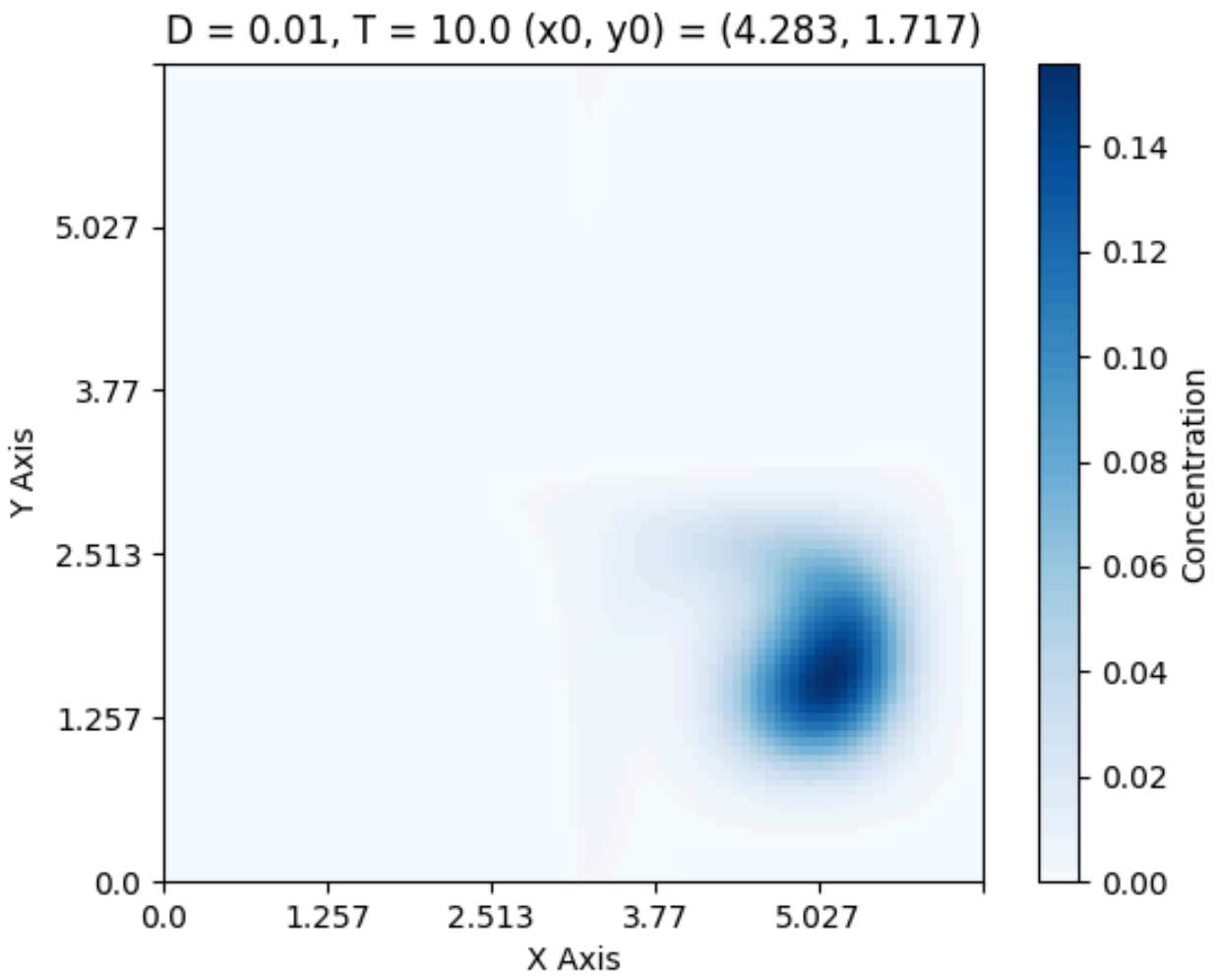
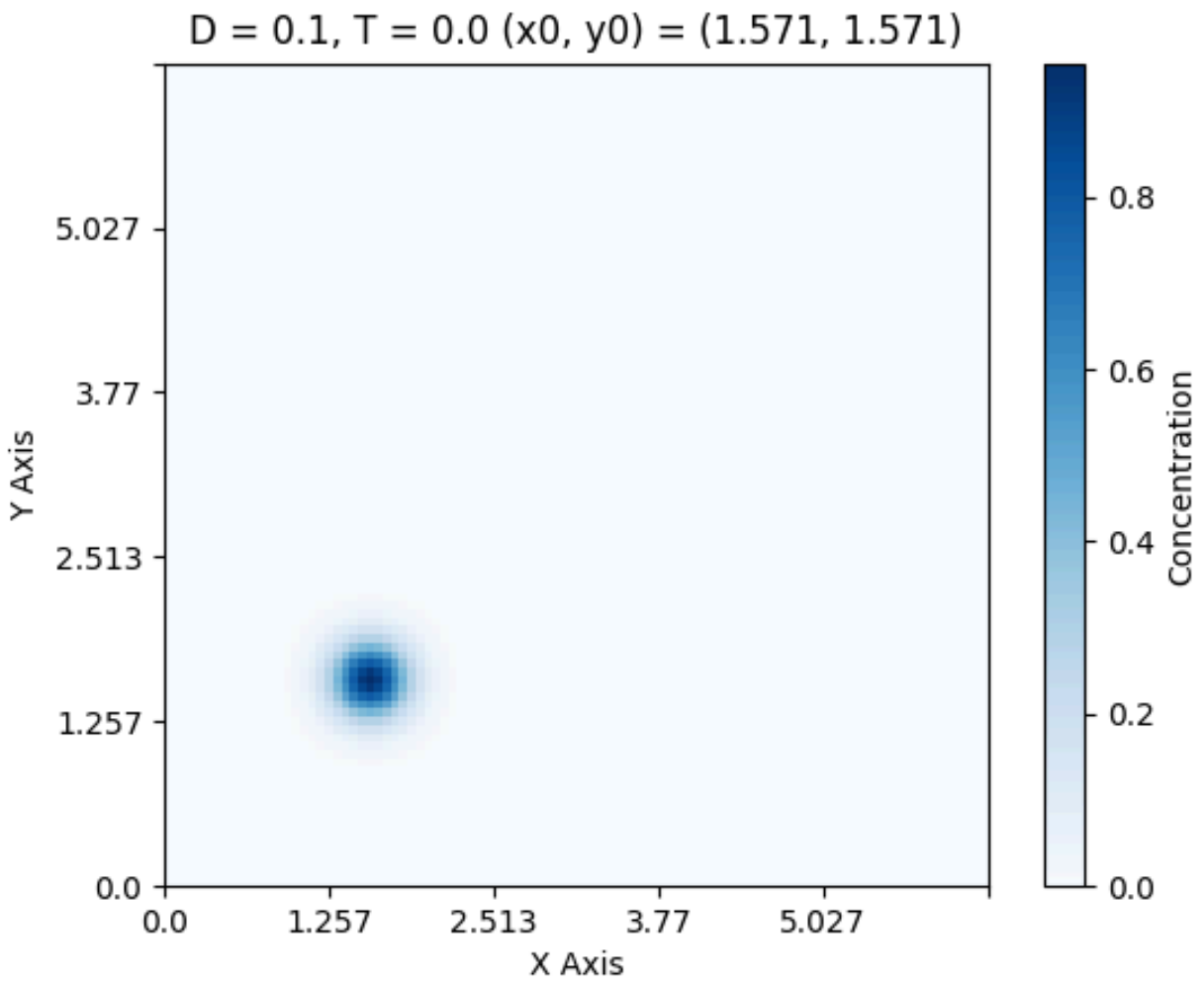
3.77
5.027
0.000
0.005
0.010
0.015
0.020
0.025
0.030
0.035


D = 0.01, T = 0.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8


D = 0.01, T = 1.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.1
0.2
0.3
0.4
0.5
0.6


D = 0.01, T = 10.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14


D = 0.1, T = 0.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
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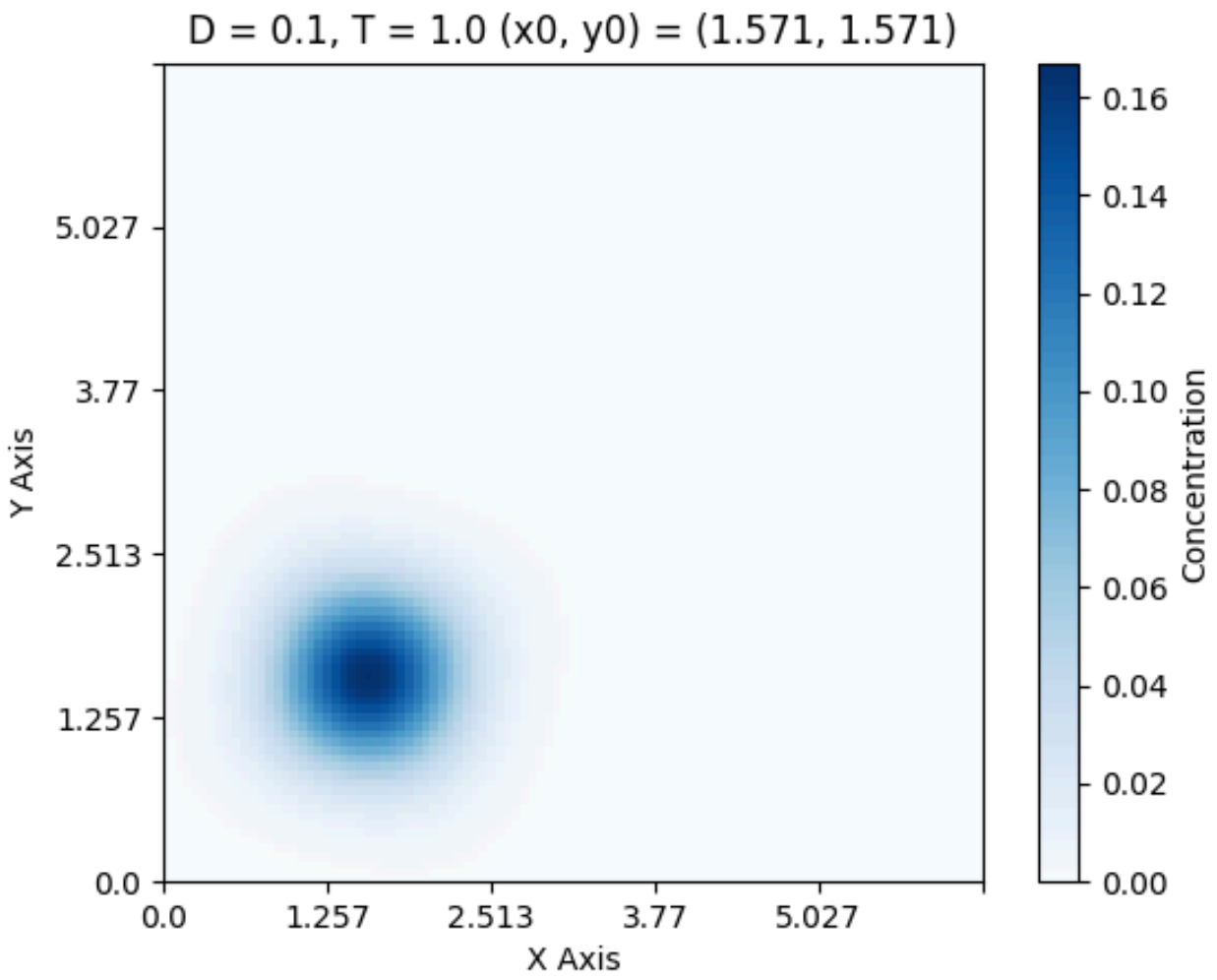
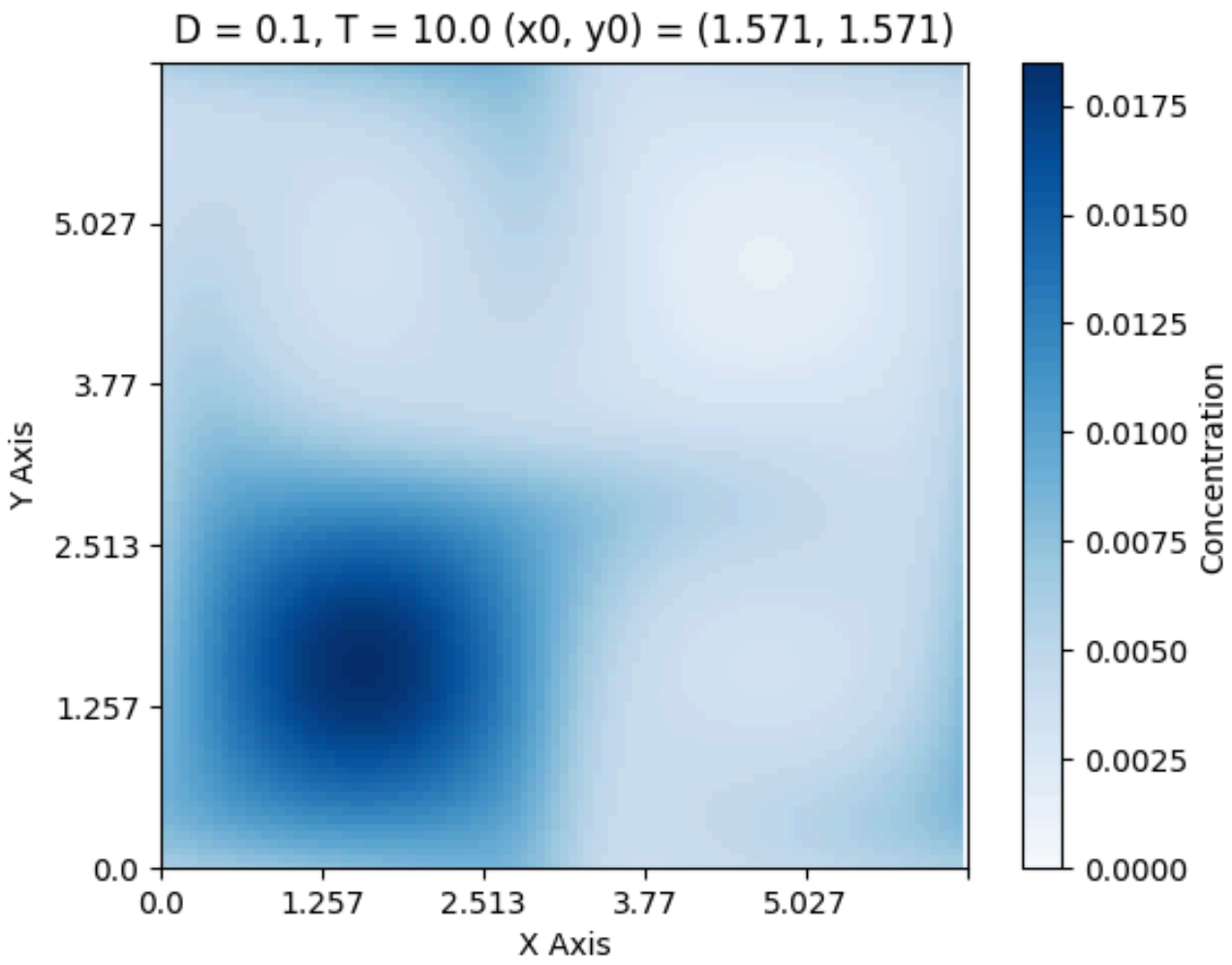
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8


D = 0.1, T = 1.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16


D = 0.1, T = 10.0 (x0, y0) = (1.571, 1.571)
Y Axis
X Axis
Concentration
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3.77
5.027
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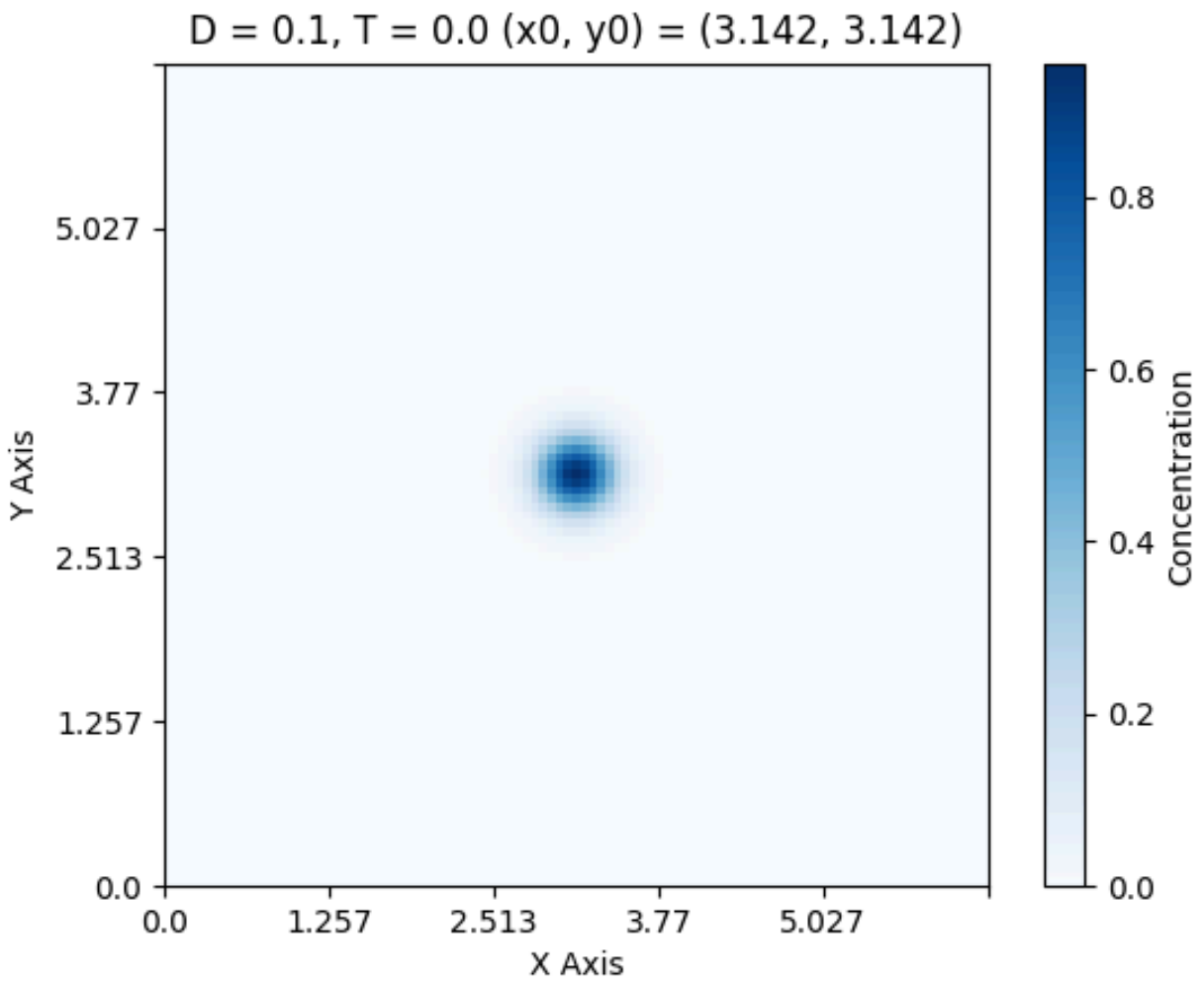
0.0025
0.0050
0.0075
0.0100
0.0125
0.0150
0.0175


D = 0.1, T = 0.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
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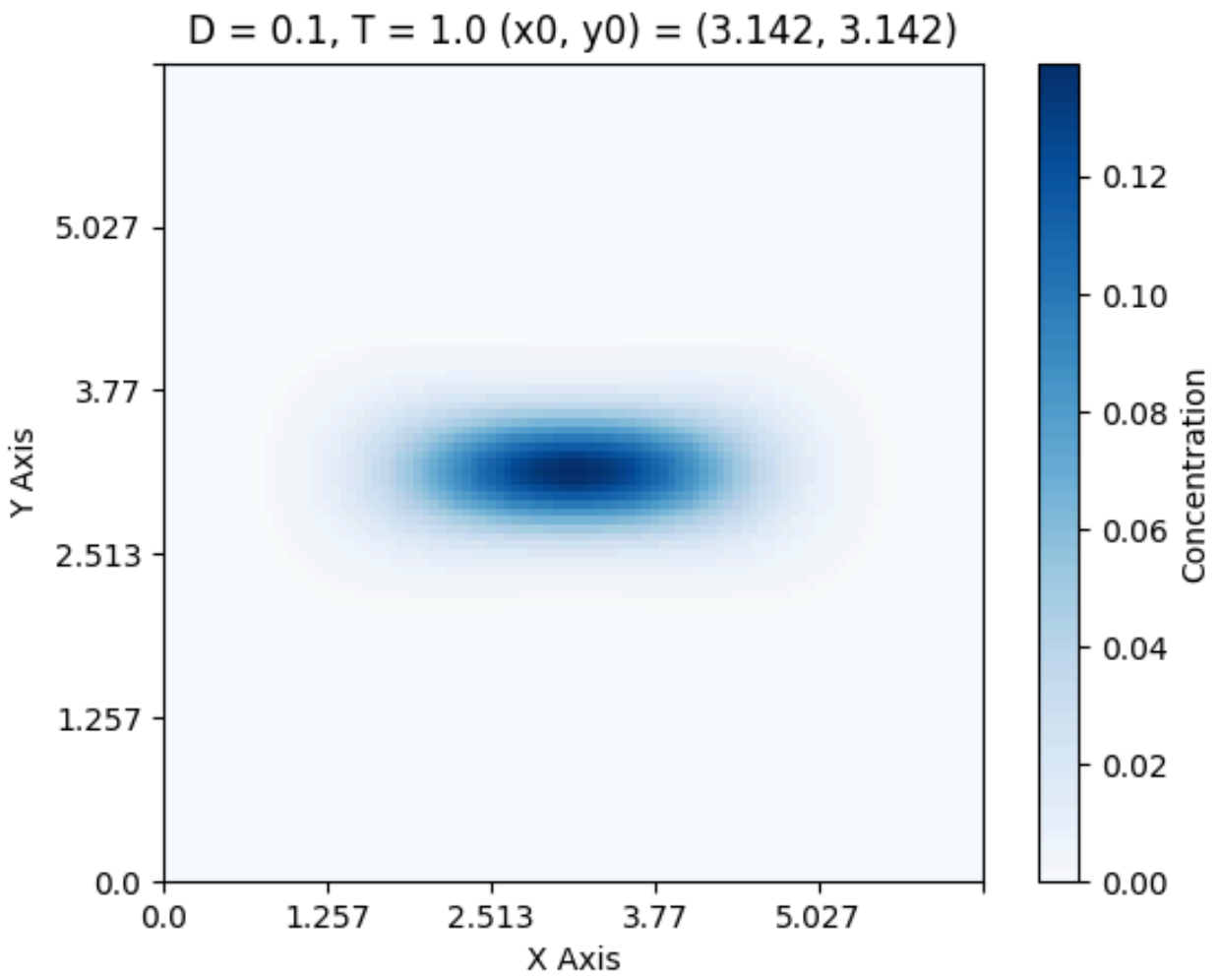
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8


D = 0.1, T = 1.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
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2.513
3.77
5.027
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0.04
0.06
0.08
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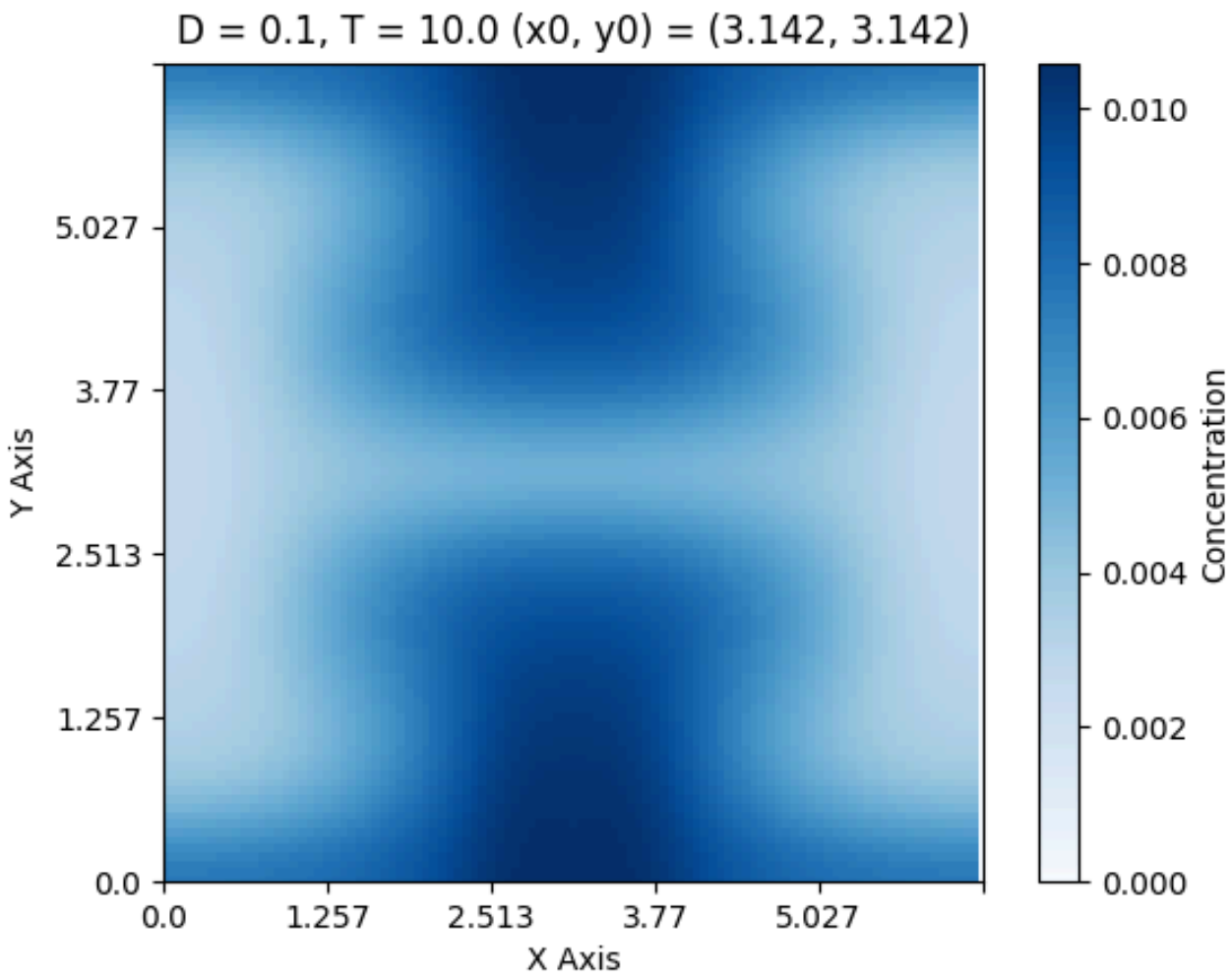
0.12


D = 0.1, T = 10.0 (x0, y0) = (3.142, 3.142)
Y Axis
X Axis
Concentration
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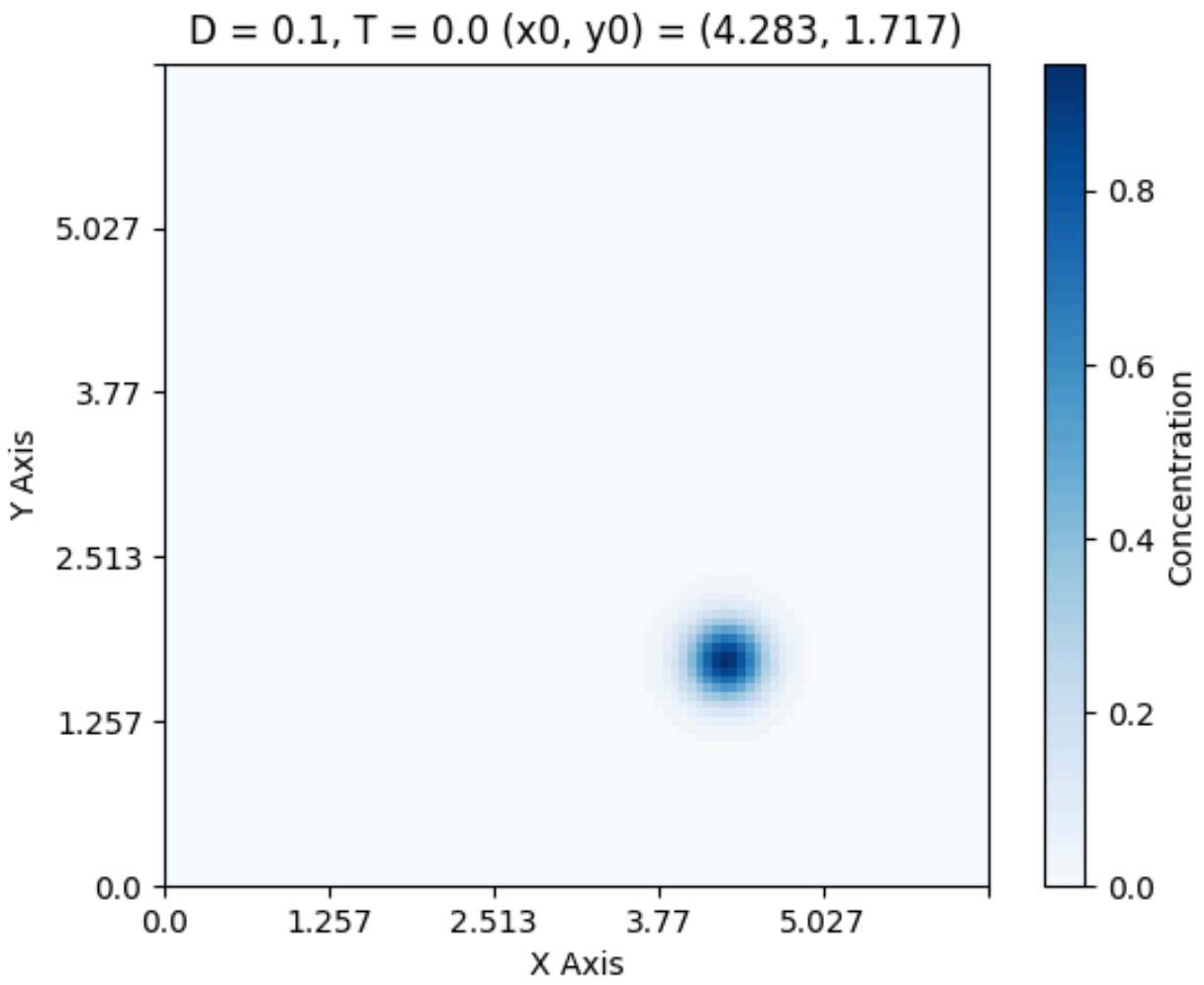
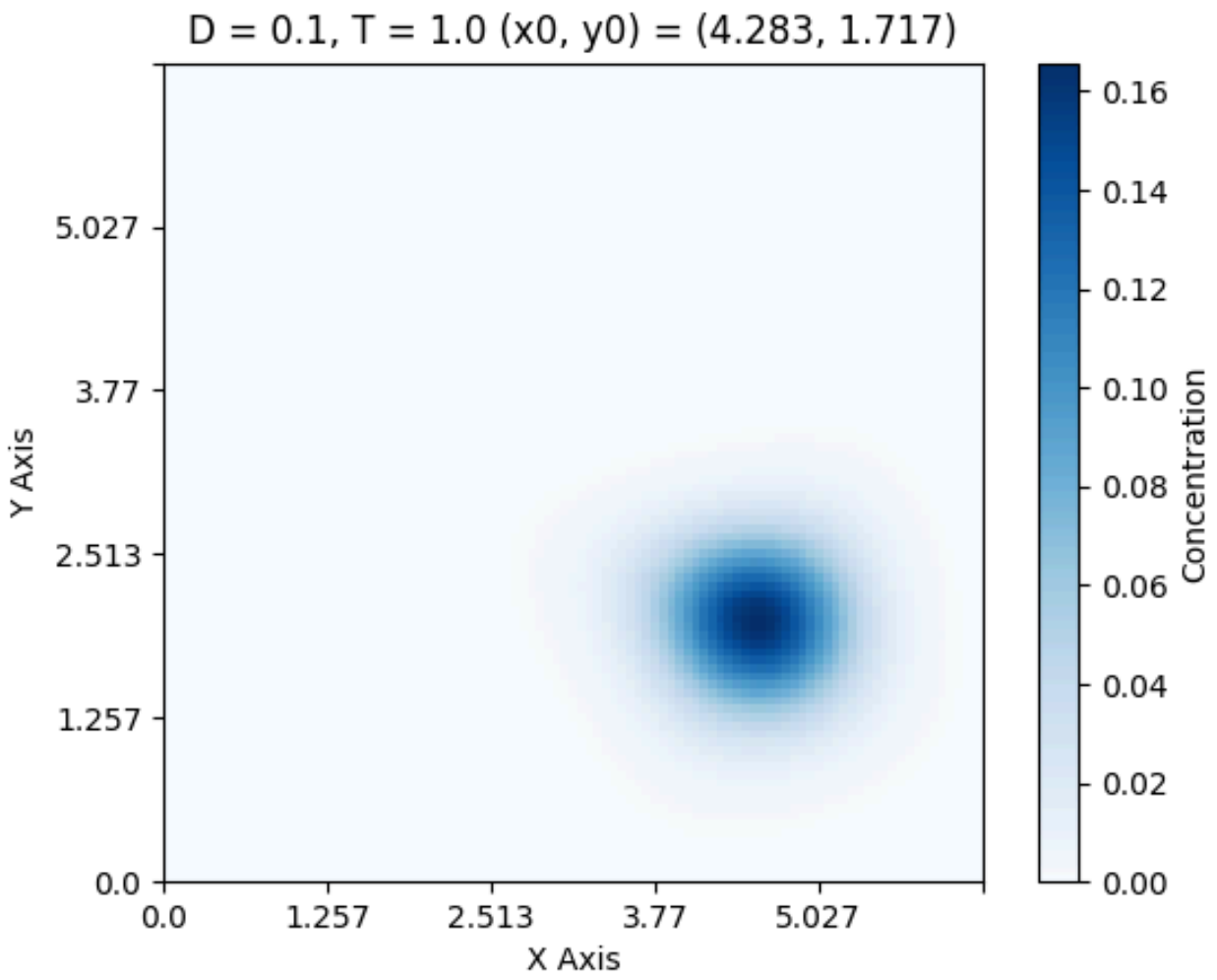
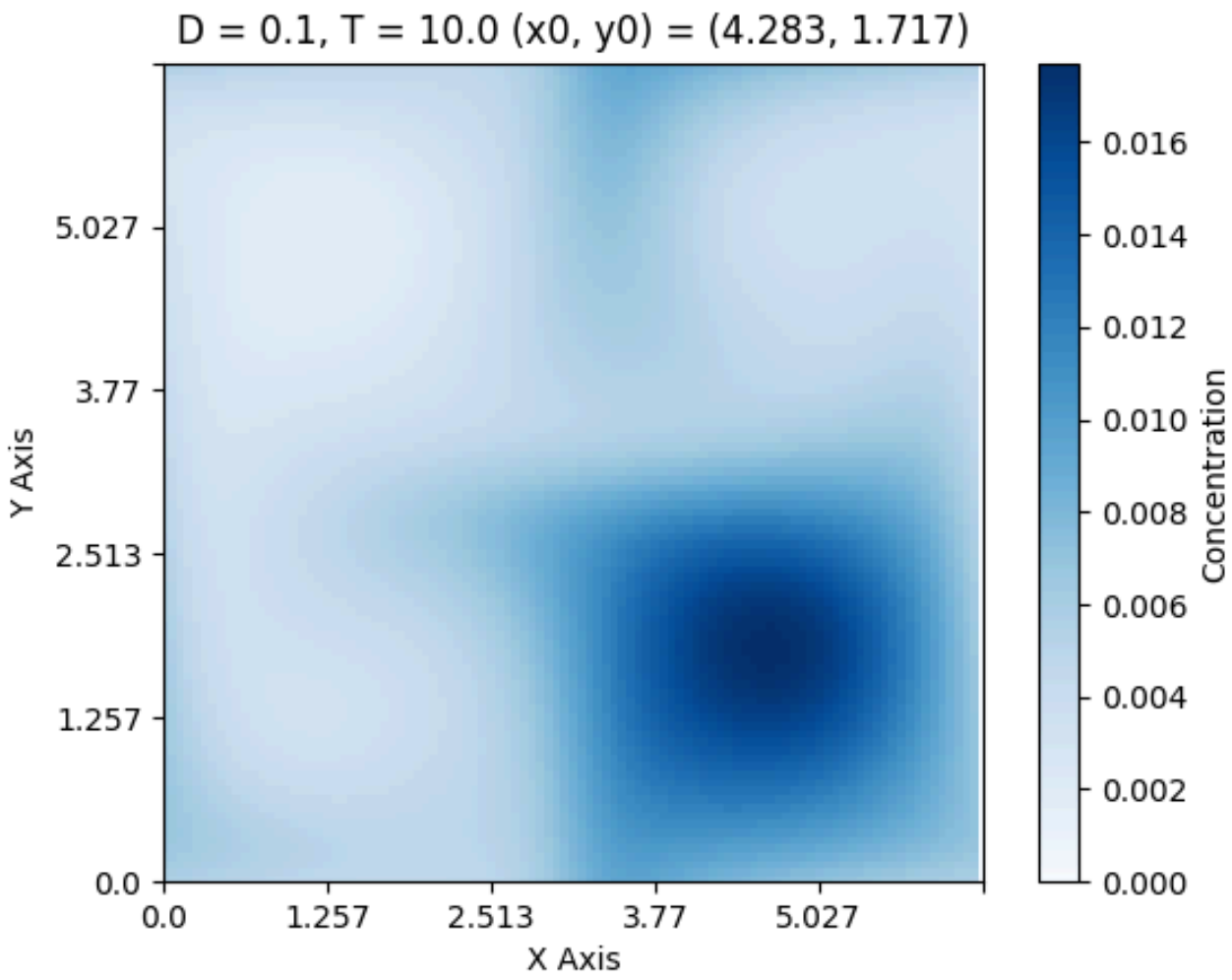
2.513
3.77
5.027
0.000
0.002
0.004
0.006
0.008
0.010


D = 0.1, T = 0.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.0
0.2
0.4
0.6
0.8


D = 0.1, T = 1.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.00
0.02
0.04
0.06
0.08
0.10
0.12
0.14
0.16


D = 0.1, T = 10.0 (x0, y0) = (4.283, 1.717)
Y Axis
X Axis
Concentration
0.0
1.257
2.513
3.77
5.027
0.000
0.002
0.004
0.006
0.008
0.010
0.012
0.014
0.016