

Chapter_4_FIF_Example

May 27, 2019

1 FIF Test

```
In [1]: import numpy as np
import matplotlib.pyplot as plt
from scipy import optimize
from scipy.optimize import least_squares

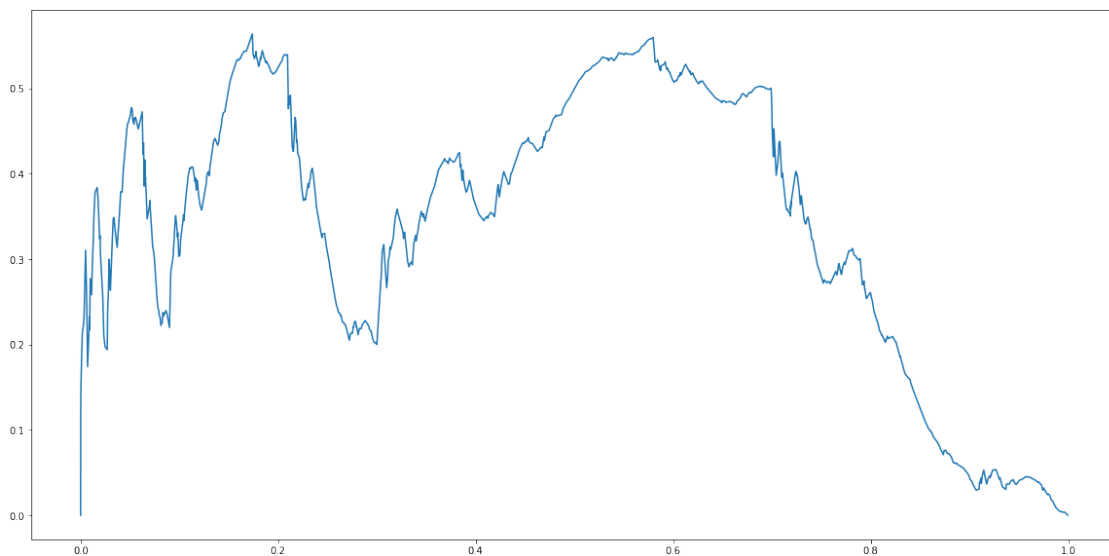
import FIF_test as ft
```

Create a FIF of three maps

```
In [2]: A_FIF_3, b_FIF_3 = ft.inter_gen(np.array([0,0.3,0.7,1]),np.array([0,0.2,0.5,0]),np.array([0,0.3,0.7,1]))
```

```
In [3]: FIF_3 = ft.chaos(A_FIF_3,b_FIF_3)
FIF_3 = FIF_3[FIF_3[:,0].argsort()]
plt.figure(figsize = (20,10))
plt.plot(FIF_3[:,0],FIF_3[:,1])
```

```
Out[3]: [<matplotlib.lines.Line2D at 0x212cf249b00>]
```



Find the moments of this FIF, and a nearby starting point, This starting point was chosen with the correct parameters, except the x co-ordinate interpolation points were evenly spread apart. We hope that the moment method is flexible enough to deduce the location of these points.

```
In [4]: M_FIF_3 = ft.mom_wrap(A_FIF_3,b_FIF_3,moment_calc = True)

print(M_FIF_3)

x_ex = np.array([0.3,0.7,0.2,0.5,0,0.8,0.3,-0.25])

x0 = np.array([0.33,0.66,0.2,0.5,0,0.8,0.3,-0.25])

print(x0)

[1.          0.5          0.34265734 0.33333333 0.14886        0.14327412
 0.25         0.08416356 0.06150251 0.06426517 0.2          0.05324347
 0.03342938 0.02783299 0.03003871 0.16666667 0.0359691   0.02002428
 0.01497723 0.01315621 0.01444695]
[ 0.33  0.66  0.2   0.5   0.    0.8   0.3  -0.25]
```

Set-up an appropriate cost function

```
In [5]: k1 = 0

def FIF_3_cost(x):

    global k1

    if k1%10 == 0 :
        print('Current map parameters:')
        print('x points:')
        print(np.hstack( ([0],x[:2],[1])) )
        print('y points:')
        print(np.hstack( ([0],x[2:5])) )
        print('d values:')
        print(x[5:])

    k1+=1

    return np.hstack( ( (ft.FIF_wrap(x)@M_FIF_3 - M_FIF_3)) )

In [6]: FIF_3_cost(x0)
```

Current map parameters:
x points:

```
[0.  0.33 0.66 1.  ]
y points:
[0.  0.2 0.5 0.  ]
d values:
[ 0.8   0.3  -0.25]
```

```
Out[6]: array([ 0.00000000e+00, -1.42041046e-10, -1.38986015e-02, -1.41562762e-10,
               -1.04702467e-02, -8.42312030e-03, -1.35467415e-10, -7.90513080e-03,
               -6.23460678e-03, -4.48410797e-03, -1.29488475e-10, -5.96553623e-03,
               -4.56907483e-03, -3.31311315e-03, -2.31343809e-03, -1.24741745e-10,
               -4.53935061e-03, -3.31172943e-03, -2.39888780e-03, -1.71550399e-03,
               -1.18286770e-03])
```

If the reader is running this code and wants to get the exact solution to rounding error, remove `max_nfev`. The output for the full computation is presented as this computation is not optimised and will take some time to run. The more interesting approximations are given through the local minima, hence why we constrain the computation.

```
In [7]: FIF_ls = np.array([ 0.29994141,  0.69995149,  0.20001023,  0.50009169, -0.01  ,0.80000000])
```

```
In [54]: '''
         k1 = 0

         bnds = ([0.1,0.5,-np.inf,-np.inf,-0.01,-1,-1,-1], [0.5,0.9,np.inf,np.inf,0.01,1,1,1])

         sol_FIF_3 = least_squares(FIF_3_cost,x0 ,bounds= bnds,verbose = 2)

         print(sol_FIF_3.x)
         '''
```

Current map parameters:

x points:

```
[0.  0.33 0.66 1.  ]
```

y points:

```
[0.  0.2 0.5 0.  ]
```

d values:

```
[ 0.8   0.3  -0.25]
```

Iteration	Total nfev	Cost	Cost reduction	Step norm	Optimality
0	1	3.0484e-04			1.43e-02

Current map parameters:

x points:

```
[0.  0.329079  0.66438886 1.  ]
```

y points:

```
[0.  0.21492703 0.5204387 0.  ]
```

d values:

```
[ 0.80089108  0.30443615 -0.24163153]
```

1	2	2.0328e-05	2.85e-04	2.74e-02	1.11e-03
---	---	------------	----------	----------	----------

Current map parameters:

```

x points:
[0.      0.32922626 0.66525579 1.      ]
y points:
[0.      0.20959746 0.52036542 0.      ]
d values:
[ 0.79628686  0.3020383  -0.2389417 ]
      2          3      1.4775e-05      5.55e-06      7.96e-03      1.71e-03
Current map parameters:
x points:
[0.      0.3291278  0.66601582 1.      ]
y points:
[0.      0.21049861 0.52307178 0.      ]
d values:
[ 0.79629851  0.30236771 -0.23728939]
      3          4      1.0687e-05      4.09e-06      3.40e-03      7.96e-04
Current map parameters:
x points:
[0.      0.32922823 0.66656007 1.      ]
y points:
[0.      0.20704004 0.52283728 0.      ]
d values:
[ 0.79335205  0.30073736 -0.23557641]
      4          5      8.1054e-06      2.58e-06      5.16e-03      1.15e-03
Current map parameters:
x points:
[0.      0.32915998 0.66710308 1.      ]
y points:
[0.00000000e+00 2.07612990e-01 5.24713482e-01 1.49011612e-08]
d values:
[ 0.79335449  0.30094365 -0.2343727 ]
      5          6      6.1548e-06      1.95e-06      2.37e-03      5.85e-04
Current map parameters:
x points:
[0.      0.32923097 0.66747345 1.      ]
y points:
[0.      0.20523754 0.52444394 0.      ]
d values:
[ 0.79134989  0.2997661  -0.23318713]
      6          7      4.8349e-06      1.32e-06      3.56e-03      8.11e-04
Current map parameters:
x points:
[0.      0.32918137 0.66787629 1.      ]
y points:
[0.      0.20563093 0.52579328 0.      ]
d values:
[ 0.79134408  0.29989995 -0.23227806]
      7          8      3.8215e-06      1.01e-06      1.73e-03      4.36e-04
Current map parameters:

```

```

x points:
[0.      0.3292325  0.66814053 1.      ]
y points:
[0.      0.20394908 0.52552757 0.      ]
d values:
[ 0.78993479  0.29901719 -0.23141532]
      8      9      3.1083e-06      7.13e-07      2.55e-03      5.84e-04
      9     10      2.5534e-06      5.55e-07      1.29e-03      3.28e-04
Current map parameters:
x points:
[0.      0.32923248 0.66864115 1.      ]
y points:
[0.      0.20302272 0.52626863 0.      ]
d values:
[ 0.78891311  0.29842521 -0.23006239]
     10     11      2.1532e-06      4.00e-07      1.86e-03      4.26e-04
Current map parameters:
x points:
[0.      0.32920393 0.66887831 1.      ]
y points:
[0.      0.20323767 0.52700516 0.      ]
d values:
[ 0.78890175  0.29848094 -0.22950703]
     11     12      1.8383e-06      3.15e-07      9.78e-04      2.48e-04
Current map parameters:
x points:
[0.      0.32923119 0.66902513 1.      ]
y points:
[0.      0.20235318 0.52677388 0.      ]
d values:
[ 0.78816832  0.29794537 -0.229004  ]
     12     13      1.6060e-06      2.32e-07      1.39e-03      3.14e-04
Current map parameters:
x points:
[0.      0.32920874 0.66921151 1.      ]
y points:
[0.      0.2025224  0.52732603 0.      ]
d values:
[ 0.78816198  0.29797939 -0.22855865]
     13     14      1.4214e-06      1.85e-07      7.54e-04      1.89e-04
Current map parameters:
x points:
[0.      0.32922884 0.6693255  1.      ]
y points:
[0.      0.20186919 0.52711299 0.      ]
d values:
[ 0.78762225  0.29754708 -0.22815754]
     14     15      1.2821e-06      1.39e-07      1.06e-03      2.35e-04

```

Current map parameters:

x points:

[0. 0.32921075 0.66947412 1.]

y points:

[0.00000000e+00 2.02008584e-01 5.27530026e-01 1.49011612e-08]

d values:

[0.7876223 0.29756615 -0.227795]

15 16 1.1703e-06 1.12e-07 5.90e-04 1.43e-04

Current map parameters:

x points:

[0. 0.32922561 0.66956495 1.]

y points:

[0. 0.20152161 0.52733274 0.]

d values:

[0.78722093 0.29720893 -0.22746654]

16 17 1.0839e-06 8.65e-08 8.25e-04 1.77e-04

Current map parameters:

x points:

[0. 0.32921059 0.66968562 1.]

y points:

[0. 0.20164234 0.52765143 0.]

d values:

[0.78722185 0.29721785 -0.22716589]

17 18 1.0135e-06 7.04e-08 4.71e-04 1.09e-04

Current map parameters:

x points:

[0. 0.32922155 0.66975889 1.]

y points:

[0. 0.20127833 0.52746654 0.]

d values:

[0.78692262 0.29691735 -0.22689298]

18 19 9.5813e-07 5.54e-08 6.53e-04 1.39e-04

19 20 9.1223e-07 4.59e-08 3.83e-04 8.30e-05

Current map parameters:

x points:

[0. 0.32921681 0.66991825 1.]

y points:

[0. 0.20111395 0.52753644 0.]

d values:

[0.78670078 0.29666166 -0.22640951]

20 21 8.7534e-07 3.69e-08 5.27e-04 1.17e-04

Current map parameters:

x points:

[0. 0.32920551 0.67000237 1.]

y points:

[0. 0.20121543 0.52772821 0.]

d values:

[0.78670328 0.2966557 -0.22619084]

21	22	8.4397e-07	3.14e-08	3.20e-04	6.94e-05
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Current map parameters:

x points:

[0.	0.32921143	0.67005099	1.]
-----	------------	------------	----	---

y points:

[0.	0.20101094	0.52755975	0.]
-----	------------	------------	----	---

d values:

[0.78653672	0.29643239	-0.22599681]
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22	23	8.1836e-07	2.56e-08	4.33e-04	1.00e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.32920116	0.67012366	1.]
-----	------------	------------	----	---

y points:

[0.	0.20110861	0.5277116	0.]
-----	------------	-----------	----	---

d values:

[0.7865399	0.29641972	-0.22580401]
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23	24	7.9589e-07	2.25e-08	2.74e-04	6.26e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.32920553	0.67016289	1.]
-----	------------	------------	----	---

y points:

[0.	0.200955	0.52754877	0.]
-----	----------	------------	----	---

d values:

[0.78641605	0.29622397	-0.2256405]
--------------	------------	--------------

24	25	7.7725e-07	1.86e-08	3.63e-04	8.71e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.32919595	0.67022712	1.]
-----	------------	------------	----	---

y points:

[0.00000000e+00	2.01051076e-01	5.27670524e-01	1.49011612e-08]
-----------------	----------------	----------------	-----------------

d values:

[0.78641984	0.29620625	-0.22546695]
--------------	------------	--------------

25	26	7.6037e-07	1.69e-08	2.42e-04	5.75e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.32901734	0.67048283	1.]
-----	------------	------------	----	---

y points:

[0.	0.20115999	0.52748611	0.00999885]
-----	------------	------------	-------------

d values:

[0.78640878	0.29597456	-0.22572484]
--------------	------------	--------------

26	27	7.4367e-07	1.67e-08	1.00e-02	5.67e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.32902052	0.67051404	1.]
-----	------------	------------	----	---

y points:

[0.	0.20104493	0.52733014	0.00999885]
-----	------------	------------	-------------

d values:

[0.78631732	0.29580309	-0.22558852]
--------------	------------	--------------

27	28	7.2974e-07	1.39e-08	3.08e-04	7.59e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.32901149 0.67057123 1.]

y points:

[0. 0.20113996 0.52742799 0.00999885]

d values:

[0.7863216 0.29578201 -0.22543156]

28	29	7.1676e-07	1.30e-08	2.17e-04	5.29e-05
29	30	6.9557e-07	2.12e-08	6.96e-04	5.20e-05

Current map parameters:

x points:

[0. 0.32874873 0.67094819 1.]

y points:

[0. 0.20117988 0.52701992 0.00999894]

d values:

[0.78626673 0.29534849 -0.22567517]

30	31	6.8472e-07	1.08e-08	2.66e-04	6.67e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.3287401 0.67099982 1.]

y points:

[0. 0.20127461 0.52709932 0.00999894]

d values:

[0.78627142 0.29532523 -0.22553169]

31	32	6.7438e-07	1.03e-08	1.98e-04	5.19e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.32859507 0.67118046 1.]

y points:

[0. 0.20132868 0.52696395 -0.00999896]

d values:

[0.78629112 0.29519878 -0.22571491]

32	33	6.6427e-07	1.01e-08	2.00e-02	5.14e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.32844898 0.6713597 1.]

y points:

[0. 0.20138155 0.52682981 0.00999897]

d values:

[0.78631183 0.29507277 -0.22589721]

33	34	6.5430e-07	9.97e-09	2.00e-02	5.09e-05
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.3283018 0.67153756 1.]

y points:

[0. 0.20143318 0.5266969 -0.00999898]

d values:


```

[ 0.78633354  0.29494721 -0.22607859]
      34      35      6.4448e-07      9.82e-09      2.00e-02      5.04e-05
Current map parameters:
x points:
[0.      0.32800527 0.67189054 1.      ]
y points:
[ 0.      0.20153403  0.52643345 -0.00999901]
d values:
[ 0.78637897  0.29469701 -0.22643949]
      35      36      6.2520e-07      1.93e-08      6.98e-04      4.95e-05
Current map parameters:
x points:
[0.      0.32770397 0.67223799 1.      ]
y points:
[ 0.      0.2016299   0.52617487 -0.00999901]
d values:
[ 0.78642858  0.29444853 -0.22679667]
      36      37      6.0647e-07      1.87e-08      6.92e-04      4.85e-05
Current map parameters:
x points:
[0.      0.32739781 0.67257997 1.      ]
y points:
[ 0.      0.20172081  0.52592109 -0.00999903]
d values:
[ 0.78648235  0.29420179 -0.22715014]
      37      38      5.8830e-07      1.82e-08      6.87e-04      4.76e-05
Current map parameters:
x points:
[0.      0.32724224 0.67274826 1.      ]
y points:
[0.      0.20176379 0.52579655 0.00999905]
d values:
[ 0.78651135  0.29407926 -0.22732503]
      38      39      5.7945e-07      8.85e-09      2.00e-02      4.72e-05
      39      40      5.6206e-07      1.74e-08      6.80e-04      4.63e-05
Current map parameters:
x points:
[0.      0.32661036 0.67341075 1.      ]
y points:
[0.      0.20192597 0.52530763 0.00999907]
d values:
[ 0.78663559  0.2935929  -0.22801707]
      40      41      5.4518e-07      1.69e-08      6.75e-04      4.54e-05
Current map parameters:
x points:
[0.      0.32644853 0.6735724  1.      ]
y points:
[ 0.      0.20196281  0.52518883 -0.00999909]

```

```

d values:
[ 0.78666984  0.29347264 -0.2281873 ]
      41            42            5.3696e-07            8.22e-09            2.00e-02            4.49e-05
Current map parameters:
x points:
[0.            0.32612249 0.67389312 1.            ]
y points:
[ 0.            0.20203413  0.52495345 -0.0099991 ]
d values:
[ 0.78674036  0.29323309 -0.22852588]
      42            43            5.2082e-07            1.61e-08            6.68e-04            4.41e-05
Current map parameters:
x points:
[0.            0.32579113 0.67420859 1.            ]
y points:
[ 0.            0.20210053  0.52472256 -0.00999912]
d values:
[ 0.78681517  0.29299532 -0.22886074]
      43            44            5.0514e-07            1.57e-08            6.64e-04            4.32e-05
Current map parameters:
x points:
[0.            0.32545432 0.6745189  1.            ]
y points:
[ 0.            0.20216196  0.52449609 -0.00999914]
d values:
[ 0.78689432  0.29275935 -0.22919186]
      44            45            4.8993e-07            1.52e-08            6.61e-04            4.24e-05
Current map parameters:
x points:
[0.            0.32511194 0.67482409 1.            ]
y points:
[ 0.            0.20221847  0.52427396 -0.00999917]
d values:
[ 0.78697782  0.29252518 -0.22951925]
      45            46            4.7517e-07            1.48e-08            6.57e-04            4.16e-05
Current map parameters:
x points:
[0.            0.3247639  0.67512419 1.            ]
y points:
[ 0.            0.20227005  0.52405615 -0.00999917]
d values:
[ 0.78706574  0.2922928  -0.22984291]
      46            47            4.6083e-07            1.43e-08            6.54e-04            4.08e-05
Current map parameters:
x points:
[0.            0.32441006 0.67541926 1.            ]
y points:
[ 0.            0.20231668  0.52384259 -0.00999918]

```

```

d values:
[ 0.78715807  0.29206223 -0.23016284]
      47          48          4.4692e-07      1.39e-08      6.51e-04      4.00e-05
Current map parameters:
x points:
[0.          0.32405031 0.67570934 1.          ]
y points:
[ 0.          0.20235835  0.52363324 -0.0099992 ]
d values:
[ 0.7872549   0.29183343 -0.23047906]
      48          49          4.3341e-07      1.35e-08      6.49e-04      3.92e-05
      49          50          4.2030e-07      1.31e-08      6.47e-04      3.85e-05
Current map parameters:
x points:
[0.          0.32331259 0.67627471 1.          ]
y points:
[ 0.          0.20242683  0.52322692 -0.00999923]
d values:
[ 0.78746216  0.29138123 -0.2311003 ]
      50          51          4.0758e-07      1.27e-08      6.45e-04      3.77e-05
Current map parameters:
x points:
[0.          0.32293437 0.67655008 1.          ]
y points:
[ 0.          0.20245361  0.52302986 -0.00999925]
d values:
[ 0.7875727   0.29115779 -0.23140537]
      51          52          3.9523e-07      1.23e-08      6.43e-04      3.70e-05
Current map parameters:
x points:
[0.          0.32254969 0.67682065 1.          ]
y points:
[ 0.          0.20247539  0.52283681 -0.00999926]
d values:
[ 0.78768791  0.29093613 -0.23170672]
      52          53          3.8325e-07      1.20e-08      6.42e-04      3.63e-05
Current map parameters:
x points:
[0.          0.32235407 0.67695353 1.          ]
y points:
[0.          0.2024838   0.52274226 0.00999927]
d values:
[ 0.78774788  0.29082617 -0.23185556]
      53          54          3.7741e-07      5.84e-09      2.00e-02      3.59e-05
Current map parameters:
x points:
[0.          0.32215714 0.67708528 1.          ]
y points:

```

```

[ 0.          0.20249106  0.52264865 -0.00999928]
d values:
[ 0.78780888  0.29071671 -0.2320035 ]
      54          55          3.7166e-07          5.75e-09          2.00e-02          3.56e-05
Current map parameters:
x points:
[0.          0.3219589  0.67721591 1.          ]
y points:
[0.          0.20249722 0.52255594 0.0099993 ]
d values:
[ 0.78787092  0.29060775 -0.23215053]
      55          56          3.6600e-07          5.66e-09          2.00e-02          3.53e-05
Current map parameters:
x points:
[0.          0.32175936 0.67734541 1.          ]
y points:
[ 0.          0.20250228  0.52246417 -0.00999929]
d values:
[ 0.78793401  0.2904993  -0.23229667]
      56          57          3.6041e-07          5.58e-09          2.00e-02          3.49e-05
Current map parameters:
x points:
[0.          0.32155851 0.6774738  1.          ]
y points:
[0.          0.20250624 0.52237331 0.0099993 ]
d values:
[ 0.78799809  0.29039137 -0.23244192]
      57          58          3.5492e-07          5.50e-09          2.00e-02          3.46e-05
Current map parameters:
x points:
[0.          0.32115421 0.67772835 1.          ]
y points:
[0.          0.20251196 0.5221934  0.00999931]
d values:
[ 0.78812834  0.29017647 -0.23273062]
      58          59          3.4412e-07          1.08e-08          6.38e-04          3.39e-05
      59          60          3.3364e-07          1.05e-08          6.38e-04          3.33e-05
Current map parameters:
x points:
[0.          0.32032472 0.67822358 1.          ]
y points:
[0.          0.20250837 0.52184495 0.00999933]
d values:
[ 0.78840349  0.28975175 -0.23329702]
      60          61          3.2347e-07          1.02e-08          6.39e-04          3.26e-05
Current map parameters:
x points:
[0.          0.31989923 0.67846434 1.          ]

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y points:
[0.          0.20249902 0.52167634 0.00999935]
d values:
[ 0.78854853  0.28954187 -0.23357478]
      61          62          3.1360e-07          9.87e-09          6.40e-04          3.20e-05
Current map parameters:
x points:
[0.          0.31946634 0.67870059 1.          ]
y points:
[0.          0.2024846  0.52151142 0.00999936]
d values:
[ 0.78869865  0.2893336  -0.23384891]
      62          63          3.0402e-07          9.58e-09          6.42e-04          3.13e-05
Current map parameters:
x points:
[0.          0.31902592 0.67893232 1.          ]
y points:
[0.          0.20246511 0.52135016 0.00999937]
d values:
[ 0.78885392  0.28912691 -0.23411945]
      63          64          2.9473e-07          9.29e-09          6.43e-04          3.07e-05
Current map parameters:
x points:
[0.          0.31857779 0.67915962 1.          ]
y points:
[0.          0.20244047 0.52119254 0.00999939]
d values:
[ 0.78901442  0.28892177 -0.23438639]
      64          65          2.8571e-07          9.02e-09          6.46e-04          3.01e-05
Current map parameters:
x points:
[0.          0.31812179 0.67938249 1.          ]
y points:
[0.          0.2024107  0.52103848 0.00999941]
d values:
[ 0.78918024  0.28871813 -0.23464977]
      65          66          2.7696e-07          8.75e-09          6.49e-04          2.95e-05
Current map parameters:
x points:
[0.          0.31765773 0.67960098 1.          ]
y points:
[0.          0.20237576 0.520888    0.00999941]
d values:
[ 0.78935148  0.28851595 -0.23490959]
      66          67          2.6847e-07          8.49e-09          6.52e-04          2.89e-05
Current map parameters:
x points:
[0.          0.31718544 0.67981511 1.          ]

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y points:
[0.      0.20233562 0.52074107 0.009999942]
d values:
[ 0.78952818  0.28831521 -0.23516587]
      67      68      2.6023e-07      8.24e-09      6.55e-04      2.83e-05
Current map parameters:
x points:
[0.      0.31670473 0.68002491 1.      ]
y points:
[0.      0.20229024 0.52059765 0.009999943]
d values:
[ 0.78971049  0.2881158  -0.23541866]
      68      69      2.5223e-07      8.00e-09      6.59e-04      2.77e-05
      69      70      2.4447e-07      7.76e-09      6.64e-04      2.71e-05
Current map parameters:
x points:
[0.      0.31596634 0.68033104 1.      ]
y points:
[ 0.      0.20221163  0.5203895  -0.009999946]
d values:
[ 0.78999539  0.28781929 -0.23579084]
      70      71      2.4070e-07      3.78e-09      2.00e-02      2.69e-05
Current map parameters:
x points:
[0.      0.3154657  0.68053037 1.      ]
y points:
[ 0.      0.20215378  0.52025459 -0.009999946]
d values:
[ 0.7901912  0.28762329 -0.23603502]
      71      72      2.3329e-07      7.41e-09      6.70e-04      2.63e-05
Current map parameters:
x points:
[0.      0.31521084 0.68062793 1.      ]
y points:
[0.      0.20212219 0.52018885 0.009999947]
d values:
[ 0.79029207  0.28752588 -0.23615539]
      72      73      2.2968e-07      3.61e-09      2.00e-02      2.61e-05
Current map parameters:
x points:
[0.      0.31469874 0.68082115 1.      ]
y points:
[0.      0.2020572  0.5200589  0.009999948]
d values:
[ 0.79049576  0.28733185 -0.23639454]
      73      74      2.2259e-07      7.09e-09      6.76e-04      2.55e-05
Current map parameters:
x points:

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[0.          0.31417743 0.68101021 1.          ]
y points:
[0.          0.20198685 0.51993237 0.00999949]
d values:
[ 0.79070547  0.2871389  -0.2366303 ]
      74          75          2.1572e-07          6.87e-09          6.82e-04          2.50e-05
Current map parameters:
x points:
[0.          0.31391207 0.68110266 1.          ]
y points:
[ 0.          0.201949    0.51987078 -0.00999951]
d values:
[ 0.79081339  0.28704292 -0.2367465 ]
      75          76          2.1237e-07          3.35e-09          2.00e-02          2.48e-05
Current map parameters:
x points:
[0.          0.31337911 0.68128577 1.          ]
y points:
[ 0.          0.20187159  0.5197491  -0.0099995 ]
d values:
[ 0.79103113  0.28685171 -0.23697734]
      76          77          2.0580e-07          6.57e-09          6.90e-04          2.43e-05
Current map parameters:
x points:
[0.          0.31283656 0.68146477 1.          ]
y points:
[ 0.          0.20178881  0.51963079 -0.00999951]
d values:
[ 0.79125508  0.28666141 -0.23720487]
      77          78          1.9943e-07          6.37e-09          6.97e-04          2.37e-05
Current map parameters:
x points:
[0.          0.31256038 0.68155224 1.          ]
y points:
[0.          0.20174471 0.51957331 0.00999953]
d values:
[ 0.79137024  0.28656663 -0.23731701]
      78          79          1.9633e-07          3.10e-09          2.00e-02          2.35e-05
      79          80          1.9328e-07          3.05e-09          2.00e-02          2.33e-05
Current map parameters:
x points:
[0.          0.31201297 0.6817252  1.          ]
y points:
[0.          0.20165735 0.51946008 0.00999953]
d values:
[ 0.79159927  0.28637847 -0.23753941]
      80          81          1.9027e-07          3.01e-09          2.00e-02          2.31e-05
Current map parameters:

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x points:
[0.          0.31174939 0.68181132 1.          ]
y points:
[ 0.          0.20161713  0.51940393 -0.00999954]
d values:
[ 0.79170931  0.28628541 -0.23765008]
      81          82          1.8731e-07          2.96e-09          2.00e-02          2.28e-05
Current map parameters:
x points:
[0.          0.31123486 0.68198304 1.          ]
y points:
[ 0.          0.20154098  0.51929222 -0.00999954]
d values:
[ 0.79192378  0.28610068 -0.23787069]
      82          83          1.8151e-07          5.80e-09          6.64e-04          2.24e-05
Current map parameters:
x points:
[0.          0.31099105 0.68206838 1.          ]
y points:
[0.          0.20150753 0.51923698 0.00999955]
d values:
[ 0.79202497  0.28600958 -0.23798029]
      83          84          1.7869e-07          2.82e-09          2.00e-02          2.22e-05
Current map parameters:
x points:
[0.          0.31051427 0.68223846 1.          ]
y points:
[0.          0.20144413 0.51912714 0.00999956]
d values:
[ 0.79222258  0.28582876 -0.23819862]
      84          85          1.7315e-07          5.53e-09          6.26e-04          2.18e-05
Current map parameters:
x points:
[0.          0.31028734 0.6823229  1.          ]
y points:
[ 0.          0.20141624  0.51907284 -0.00999958]
d values:
[ 0.79231627  0.28573964 -0.23830698]
      85          86          1.7046e-07          2.69e-09          2.00e-02          2.16e-05
Current map parameters:
x points:
[0.          0.31006513 0.68240698 1.          ]
y points:
[0.          0.20138982 0.51901886 0.00999957]
d values:
[ 0.79240792  0.28565121 -0.23841486]
      86          87          1.6781e-07          2.65e-09          2.00e-02          2.14e-05
Current map parameters:

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x points:
[0.          0.30984743 0.6824907  1.          ]
y points:
[ 0.          0.2013648   0.51896519 -0.00999957]
d values:
[ 0.79249759  0.28556349 -0.23852226]
      87          88          1.6521e-07          2.61e-09          2.00e-02          2.12e-05
Current map parameters:
x points:
[0.          0.30942076 0.68265741 1.          ]
y points:
[ 0.          0.20131742  0.51885847 -0.00999958]
d values:
[ 0.79267319  0.2853894  -0.23873611]
      88          89          1.6009e-07          5.12e-09          5.75e-04          2.08e-05
      89          90          1.5514e-07          4.96e-09          5.56e-04          2.04e-05
Current map parameters:
x points:
[0.          0.3088166  0.68290454 1.          ]
y points:
[0.          0.20125746 0.51870093 0.00999959]
d values:
[ 0.79292082  0.28513353 -0.23905301]
      90          91          1.5273e-07          2.41e-09          2.00e-02          2.02e-05
Current map parameters:
x points:
[0.          0.30843214 0.68306749 1.          ]
y points:
[0.          0.20122289 0.51859735 0.00999996 ]
d values:
[ 0.79307799  0.28496612 -0.23926192]
      91          92          1.4800e-07          4.73e-09          5.32e-04          1.98e-05
Current map parameters:
x points:
[0.          0.30806254 0.68322888 1.          ]
y points:
[0.          0.20119264 0.51849502 0.00999996 ]
d values:
[ 0.79322871  0.28480136 -0.23946876]
      92          93          1.4342e-07          4.58e-09          5.16e-04          1.94e-05
Current map parameters:
x points:
[0.          0.30788464 0.68330874 1.          ]
y points:
[ 0.          0.20117947  0.51844446 -0.00999961]
d values:
[ 0.7933011  0.28472032 -0.23957113]
      93          94          1.4119e-07          2.23e-09          2.00e-02          1.93e-05

```

Current map parameters:

x points:

[0. 0.30753482 0.68346766 1.]

y points:

[0. 0.20115465 0.51834395 -0.00999961]

d values:

[0.79344338 0.28455965 -0.23977475]

94 95 1.3682e-07 4.37e-09 4.96e-04 1.89e-05

Current map parameters:

x points:

[0. 0.30719742 0.68362492 1.]

y points:

[0. 0.20113317 0.5182446 -0.00999964]

d values:

[0.79358038 0.28440167 -0.2399762]

95 96 1.3258e-07 4.24e-09 4.83e-04 1.86e-05

Current map parameters:

x points:

[0. 0.30687163 0.68378051 1.]

y points:

[0. 0.20111469 0.51814644 -0.00999963]

d values:

[0.79371248 0.28424639 -0.24017545]

96 97 1.2847e-07 4.11e-09 4.71e-04 1.82e-05

Current map parameters:

x points:

[0. 0.30671417 0.68385747 1.]

y points:

[0. 0.20110681 0.51809793 0.00999964]

d values:

[0.79377622 0.28417012 -0.24027396]

97 98 1.2647e-07 2.00e-09 2.00e-02 1.81e-05

Current map parameters:

x points:

[0. 0.30640407 0.68401053 1.]

y points:

[0. 0.20109214 0.51800147 0.00999964]

d values:

[0.79390179 0.28401895 -0.24046985]

98 99 1.2256e-07 3.92e-09 4.54e-04 1.77e-05

99 100 1.1876e-07 3.80e-09 4.43e-04 1.74e-05

Current map parameters:

x points:

[0. 0.30581313 0.68431156 1.]

y points:

[0. 0.20106963 0.51781186 0.00999965]

d values:

[0.79414079 0.28372482 -0.2408548]

100	101	1.1508e-07	3.68e-09	4.33e-04	1.71e-05
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Current map parameters:

x points:

[0. 0.30553123 0.68445954 1.]

y points:

[0. 0.20106136 0.51771866 0.00999966]

d values:

[0.79425474 0.28358185 -0.24104386]

101	102	1.1151e-07	3.57e-09	4.23e-04	1.68e-05
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Current map parameters:

x points:

[0. 0.30539445 0.68453271 1.]

y points:

[0. 0.20105809 0.51767258 -0.00999966]

d values:

[0.79431001 0.28351174 -0.24113725]

102	103	1.0978e-07	1.73e-09	2.00e-02	1.66e-05
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Current map parameters:

x points:

[0. 0.30512472 0.68467814 1.]

y points:

[0. 0.20105229 0.51758092 -0.00999967]

d values:

[0.79441907 0.28337292 -0.24132286]

103	104	1.0637e-07	3.40e-09	4.10e-04	1.63e-05
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Current map parameters:

x points:

[0. 0.30486278 0.68482191 1.]

y points:

[0. 0.20104796 0.51749027 -0.00999967]

d values:

[0.794525 0.28323685 -0.24150617]

104	105	1.0307e-07	3.30e-09	4.01e-04	1.60e-05
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Current map parameters:

x points:

[0. 0.30460824 0.68496402 1.]

y points:

[0. 0.20104502 0.51740057 -0.00999969]

d values:

[0.79462798 0.28310352 -0.24168718]

105	106	9.9876e-08	3.20e-09	3.93e-04	1.58e-05
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Current map parameters:

x points:

[0. 0.30436077 0.68510447 1.]

y points:

[0. 0.20104332 0.51731184 -0.00999968]

d values:

[0.79472819 0.28297294 -0.24186589]

106	107	9.6777e-08	3.10e-09	3.85e-04	1.55e-05
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.30412004 0.68524327 1.]

y points:

[0. 0.20104275 0.51722403 -0.00999969]

d values:

[0.79482573 0.28284512 -0.24204231]

107	108	9.3773e-08	3.00e-09	3.77e-04	1.52e-05
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Current map parameters:

x points:

[0. 0.3040029 0.68531186 1.]

y points:

[0. 0.20104296 0.51718057 0.0099997]

d values:

[0.79487325 0.28278256 -0.24212938]

108	109	9.2313e-08	1.46e-09	2.00e-02	1.51e-05
109	110	8.9447e-08	2.87e-09	3.66e-04	1.48e-05

Current map parameters:

x points:

[0. 0.30365896 0.6855156 1.]

y points:

[0. 0.20104466 0.51705128 -0.0099997]

d values:

[0.79501298 0.28259839 -0.24238768]

110	111	8.8053e-08	1.39e-09	2.00e-02	1.47e-05
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Current map parameters:

x points:

[0. 0.30354775 0.68558258 1.]

y points:

[0. 0.20104568 0.51700868 0.00999971]

d values:

[0.79505826 0.28253861 -0.24247244]

111	112	8.6680e-08	1.37e-09	2.00e-02	1.45e-05
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Current map parameters:

x points:

[0. 0.30332802 0.68571576 1.]

y points:

[0. 0.20104806 0.51692388 0.00999971]

d values:

[0.7951478 0.28242046 -0.24264083]

112	113	8.3988e-08	2.69e-09	3.51e-04	1.43e-05
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Current map parameters:

x points:

[0. 0.30311391 0.68584733 1.]

y points:

[0. 0.20105116 0.51683989 0.00999971]

d values:

[0.79523522	0.28230504	-0.24280695]				
113	114	8.1378e-08	2.61e-09	3.45e-04	1.40e-05	
Current map parameters:						
x points:						
[0.	0.30300954	0.68591234	1.]
y points:						
[0.	0.20105301	0.51679831	-0.00999972]			
d values:						
[0.79527792	0.28224869	-0.24288889]				
114	115	8.0109e-08	1.27e-09	2.00e-02	1.39e-05	
Current map parameters:						
x points:						
[0.	0.30290642	0.68597697	1.]
y points:						
[0.	0.20105499	0.51675689	0.00999974]			
d values:						
[0.79532017	0.28219304	-0.24297025]				
115	116	7.8859e-08	1.25e-09	2.00e-02	1.38e-05	
Current map parameters:						
x points:						
[0.	0.30270266	0.68610546	1.]
y points:						
[0.	0.20105919	0.51667445	0.00999972]			
d values:						
[0.79540377	0.28208312	-0.24313185]				
116	117	7.6408e-08	2.45e-09	3.32e-04	1.35e-05	
Current map parameters:						
x points:						
[0.	0.3025039	0.68623243	1.]
y points:						
[0.	0.20106389	0.51659276	0.00999973]			
d values:						
[0.79548549	0.28197594	-0.24329121]				
117	118	7.4032e-08	2.38e-09	3.25e-04	1.33e-05	
Current map parameters:						
x points:						
[0.	0.30240693	0.68629516	1.]
y points:						
[0.	0.20106647	0.51655227	-0.00999973]			
d values:						
[0.79552547	0.28192368	-0.24336979]				
118	119	7.2877e-08	1.16e-09	2.00e-02	1.32e-05	
119	120	7.0610e-08	2.27e-09	3.16e-04	1.29e-05	
Current map parameters:						
x points:						
[0.	0.30212172	0.68648149	1.]
y points:						
[0.	0.20107463	0.51643169	0.00999974]			

```

d values:
[ 0.79564337  0.28177035 -0.24360271]
      120      121      6.9508e-08      1.10e-09      2.00e-02      1.28e-05
Current map parameters:
x points:
[0.      0.30193681 0.68660399 1.      ]
y points:
[0.      0.20108044 0.51635209 0.00999974]
d values:
[ 0.7957201  0.28167131 -0.24375542]
      121      122      6.7345e-08      2.16e-09      3.08e-04      1.26e-05
Current map parameters:
x points:
[0.      0.30184651 0.68666454 1.      ]
y points:
[ 0.      0.2010835  0.51631262 -0.00999975]
d values:
[ 0.79575767  0.28162313 -0.24383068]
      122      123      6.6293e-08      1.05e-09      2.00e-02      1.25e-05
Current map parameters:
x points:
[0.      0.30166801 0.68678486 1.      ]
y points:
[ 0.      0.20108973 0.516234  -0.00999975]
d values:
[ 0.79583211  0.28152813 -0.24398011]
      123      124      6.4230e-08      2.06e-09      2.99e-04      1.23e-05
Current map parameters:
x points:
[0.      0.30158084 0.68684432 1.      ]
y points:
[0.      0.20109294 0.51619502 0.00999975]
d values:
[ 0.79586858  0.28148197 -0.24405374]
      124      125      6.3227e-08      1.00e-09      2.00e-02      1.22e-05
Current map parameters:
x points:
[0.      0.30149465 0.68690342 1.      ]
y points:
[ 0.      0.20109621 0.51615616 -0.00999977]
d values:
[ 0.79590472  0.28143648 -0.24412684]
      125      126      6.2239e-08      9.88e-10      2.00e-02      1.21e-05
Current map parameters:
x points:
[0.      0.30132423 0.68702094 1.      ]
y points:
[ 0.      0.20110281 0.51607876 -0.00999976]

```

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d values:
[ 0.79597633  0.28134685 -0.24427195]
      126      127      6.0301e-08      1.94e-09      2.88e-04      1.19e-05
Current map parameters:
x points:
[0.      0.30124097 0.68707901 1.      ]
y points:
[0.      0.20110619 0.51604036 0.00999976]
d values:
[ 0.79601142  0.28130339 -0.24434344]
      127      128      5.9358e-08      9.42e-10      2.00e-02      1.18e-05
Current map parameters:
x points:
[0.      0.30115865 0.68713673 1.      ]
y points:
[ 0.      0.2011096  0.5160021  -0.00999976]
d values:
[ 0.79604621  0.28126056 -0.24441441]
      128      129      5.8430e-08      9.28e-10      2.00e-02      1.17e-05
      129      130      5.6610e-08      1.82e-09      2.78e-04      1.15e-05
Current map parameters:
x points:
[0.      0.30083674 0.68736493 1.      ]
y points:
[ 0.      0.20112339 0.51585015 -0.00999977]
d values:
[ 0.79618283  0.28109461 -0.244694  ]
      130      131      5.4847e-08      1.76e-09      2.73e-04      1.13e-05
Current map parameters:
x points:
[0.      0.30068126 0.68747703 1.      ]
y points:
[ 0.      0.20113042 0.515775  -0.00999977]
d values:
[ 0.79624926  0.28101558 -0.24483066]
      131      132      5.3138e-08      1.71e-09      2.68e-04      1.11e-05
Current map parameters:
x points:
[0.      0.30052924 0.68758783 1.      ]
y points:
[ 0.      0.20113748 0.51570035 -0.00999978]
d values:
[ 0.79631449  0.28093917 -0.24496524]
      132      133      5.1482e-08      1.66e-09      2.63e-04      1.09e-05
Current map parameters:
x points:
[0.      0.30045494 0.68764257 1.      ]
y points:

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[0.          0.20114104 0.51566328 0.00999978]
d values:
[ 0.79634653  0.28090227 -0.24503151]
      133          134          5.0677e-08          8.05e-10          2.00e-02          1.08e-05
Current map parameters:
x points:
[0.          0.30030798 0.68775143 1.          ]
y points:
[0.          0.2011481  0.51558939 0.00999978]
d values:
[ 0.79641005  0.28082977 -0.24516302]
      134          135          4.9097e-08          1.58e-09          2.56e-04          1.06e-05
Current map parameters:
x points:
[0.          0.30023613 0.68780524 1.          ]
y points:
[ 0.          0.20115163  0.51555265 -0.0099998 ]
d values:
[ 0.79644127  0.28079482 -0.24522777]
      135          136          4.8329e-08          7.68e-10          2.00e-02          1.05e-05
Current map parameters:
x points:
[0.          0.30009402 0.68791222 1.          ]
y points:
[ 0.          0.20115866  0.51547944 -0.00999979]
d values:
[ 0.79650319  0.28072621 -0.24535625]
      136          137          4.6822e-08          1.51e-09          2.49e-04          1.03e-05
Current map parameters:
x points:
[0.          0.29995507 0.68801798 1.          ]
y points:
[ 0.          0.20116565  0.51540667 -0.00999979]
d values:
[ 0.79656402  0.28066018 -0.24548272]
      137          138          4.5362e-08          1.46e-09          2.45e-04          1.01e-05
Current map parameters:
x points:
[0.          0.29988713 0.68807025 1.          ]
y points:
[0.          0.20116912 0.51537051 0.0099998 ]
d values:
[ 0.79659394  0.28062842 -0.24554498]
      138          139          4.4652e-08          7.10e-10          2.00e-02          1.01e-05
      139          140          4.3259e-08          1.39e-09          2.38e-04          9.88e-06
Current map parameters:
x points:
[0.          0.29968703 0.68822557 1.          ]

```



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y points:
[ 0.          0.2011794  0.51526251 -0.0099998 ]
d values:
[ 0.79668246  0.28053639 -0.24572924]
      140          141          4.2582e-08          6.77e-10          2.00e-02          9.80e-06
Current map parameters:
x points:
[0.          0.29962205 0.68827666 1.          ]
y points:
[0.          0.20118277 0.51522674 0.0099998 ]
d values:
[ 0.79671141  0.28050719 -0.24578953]
      141          142          4.1915e-08          6.67e-10          2.00e-02          9.71e-06
Current map parameters:
x points:
[0.          0.29955776 0.68832747 1.          ]
y points:
[ 0.          0.2011861  0.51519107 -0.00999981]
d values:
[ 0.79674013  0.28047862 -0.24584934]
      142          143          4.1259e-08          6.56e-10          2.00e-02          9.63e-06
Current map parameters:
x points:
[0.          0.2994306  0.68842848 1.          ]
y points:
[ 0.          0.20119273 0.51511991 -0.00999981]
d values:
[ 0.79679712  0.28042275 -0.24596799]
      143          144          3.9972e-08          1.29e-09          2.28e-04          9.46e-06
Current map parameters:
x points:
[0.          0.29936842 0.68847842 1.          ]
y points:
[0.          0.20119597 0.51508453 0.00999981]
d values:
[ 0.79682515  0.28039606 -0.24602636]
      144          145          3.9346e-08          6.26e-10          2.00e-02          9.38e-06
Current map parameters:
x points:
[0.          0.29930692 0.68852809 1.          ]
y points:
[ 0.          0.20119918 0.51504921 -0.00999983]
d values:
[ 0.79685297  0.28037   -0.24608425]
      145          146          3.8730e-08          6.16e-10          2.00e-02          9.30e-06
Current map parameters:
x points:
[0.          0.29918528 0.68862685 1.          ]

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y points:
[ 0.          0.20120552  0.51497876 -0.00999981]
d values:
[ 0.79690819  0.28031913 -0.2461991 ]
      146          147          3.7521e-08          1.21e-09          2.20e-04          9.15e-06
Current map parameters:
x points:
[0.          0.29906633 0.68872452 1.          ]
y points:
[ 0.          0.20121173  0.51490866 -0.00999982]
d values:
[ 0.79696251  0.28027074 -0.24631206]
      147          148          3.6350e-08          1.17e-09          2.16e-04          8.99e-06
Current map parameters:
x points:
[0.          0.29895002 0.6888211  1.          ]
y points:
[ 0.          0.20121779  0.51483887 -0.00999982]
d values:
[ 0.797016    0.28022479 -0.24642319]
      148          149          3.5216e-08          1.13e-09          2.12e-04          8.84e-06
      149          150          3.4664e-08          5.52e-10          2.00e-02          8.76e-06
Current map parameters:
x points:
[0.          0.29883692 0.68891635 1.          ]
y points:
[ 0.          0.20122364  0.51476947 -0.00999982]
d values:
[ 0.79706847  0.28018191 -0.24653199]
      150          151          3.4121e-08          5.43e-10          2.00e-02          8.69e-06
Current map parameters:
x points:
[0.          0.2987257  0.68901082 1.          ]
y points:
[ 0.          0.20122935  0.51470029 -0.00999983]
d values:
[ 0.79712034  0.28014085 -0.24663945]
      151          152          3.3056e-08          1.06e-09          2.05e-04          8.54e-06
Current map parameters:
x points:
[0.          0.29861693 0.68910427 1.          ]
y points:
[ 0.          0.20123489  0.51463139 -0.00999983]
d values:
[ 0.79717143  0.28010221 -0.2467451 ]
      152          153          3.2025e-08          1.03e-09          2.01e-04          8.39e-06
Current map parameters:
x points:

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[0.          0.29851062 0.68919667 1.          ]
y points:
[ 0.          0.20124026  0.51456277 -0.00999983]
d values:
[ 0.79722175  0.28006597 -0.24684897]
      153          154          3.1025e-08          1.00e-09          1.98e-04          8.25e-06
Current map parameters:
x points:
[0.          0.29845865 0.68924238 1.          ]
y points:
[0.          0.20124283 0.5145286  0.00999983]
d values:
[ 0.79724653  0.28004905 -0.24690002]
      154          155          3.0539e-08          4.86e-10          2.00e-02          8.18e-06
Current map parameters:
x points:
[0.          0.29840727 0.68928785 1.          ]
y points:
[ 0.          0.20124536  0.51449446 -0.00999985]
d values:
[ 0.79727113  0.28003271 -0.24695064]
      155          156          3.0061e-08          4.78e-10          2.00e-02          8.11e-06
Current map parameters:
x points:
[0.          0.29830566 0.68937829 1.          ]
y points:
[ 0.          0.20125032  0.51442633 -0.00999984]
d values:
[ 0.79731999  0.28000123 -0.247051  ]
      156          157          2.9122e-08          9.38e-10          1.91e-04          7.97e-06
Current map parameters:
x points:
[0.          0.29825601 0.68942303 1.          ]
y points:
[0.          0.2012527  0.51439238 0.00999984]
d values:
[ 0.79734404  0.27998668 -0.24710032]
      157          158          2.8666e-08          4.56e-10          2.00e-02          7.91e-06
Current map parameters:
x points:
[0.          0.29815782 0.68951203 1.          ]
y points:
[0.          0.20125736 0.5143246  0.00999984]
d values:
[ 0.79739181  0.2799587  -0.24719812]
      158          159          2.7771e-08          8.95e-10          1.87e-04          7.77e-06
      159          160          2.6905e-08          8.67e-10          1.83e-04          7.64e-06
Current map parameters:

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x points:
[0.          0.29801501 0.68964367 1.          ]
y points:
[ 0.          0.20126393  0.51422335 -0.00999985]
d values:
[ 0.79746208  0.27992141 -0.24734138]
      160          161          2.6483e-08          4.21e-10          2.00e-02          7.58e-06
Current map parameters:
x points:
[0.          0.29792237 0.68973035 1.          ]
y points:
[ 0.          0.20126806  0.51415609 -0.00999985]
d values:
[ 0.79750813  0.27989925 -0.24743495]
      161          162          2.5657e-08          8.27e-10          1.79e-04          7.45e-06
Current map parameters:
x points:
[0.          0.2978771  0.68977326 1.          ]
y points:
[0.          0.20127002 0.51412255 0.00999985]
d values:
[ 0.79753083  0.27988931 -0.24748091]
      162          163          2.5255e-08          4.02e-10          2.00e-02          7.39e-06
Current map parameters:
x points:
[0.          0.29778763 0.68985858 1.          ]
y points:
[0.          0.20127384 0.51405557 0.00999985]
d values:
[ 0.79757589  0.27987056 -0.247572  ]
      163          164          2.4467e-08          7.88e-10          1.75e-04          7.26e-06
Current map parameters:
x points:
[0.          0.29774395 0.68990082 1.          ]
y points:
[ 0.          0.20127561  0.51402217 -0.00999985]
d values:
[ 0.7975981  0.27986232 -0.24761674]
      164          165          2.4083e-08          3.83e-10          2.00e-02          7.20e-06
Current map parameters:
x points:
[0.          0.29770078 0.68994283 1.          ]
y points:
[0.          0.20127735 0.51398879 0.00999987]
d values:
[ 0.79762015  0.27985464 -0.24766107]
      165          166          2.3706e-08          3.77e-10          2.00e-02          7.14e-06
Current map parameters:

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x points:
[0.      0.29765811 0.68998464 1.      ]
y points:
[ 0.      0.20127903  0.51395547 -0.00999986]
d values:
[ 0.79764207  0.27984752 -0.247705   ]
      166      167      2.3335e-08      3.71e-10      2.00e-02      7.08e-06
Current map parameters:
x points:
[0.      0.2975738  0.69006782 1.      ]
y points:
[ 0.      0.20128228  0.51388889 -0.00999986]
d values:
[ 0.79768553  0.27983441 -0.24779208]
      167      168      2.2607e-08      7.28e-10      1.68e-04      6.96e-06
Current map parameters:
x points:
[0.      0.29753265 0.69010899 1.      ]
y points:
[0.      0.2012838  0.51385568 0.00999986]
d values:
[ 0.79770696  0.27982894 -0.24783484]
      168      169      2.2253e-08      3.54e-10      2.00e-02      6.90e-06
      169      170      2.1558e-08      6.94e-10      1.64e-04      6.79e-06
Current map parameters:
x points:
[0.      0.29741166 0.69023148 1.      ]
y points:
[ 0.      0.20128806  0.51375621 -0.00999986]
d values:
[ 0.7977705  0.27981533 -0.24796111]
      170      171      2.1221e-08      3.38e-10      2.00e-02      6.73e-06
Current map parameters:
x points:
[0.      0.29733329 0.69031219 1.      ]
y points:
[ 0.      0.20129064  0.51369006 -0.00999987]
d values:
[ 0.79781216  0.27980881 -0.24804349]
      171      172      2.0559e-08      6.62e-10      1.60e-04      6.62e-06
Current map parameters:
x points:
[0.      0.29725681 0.69039212 1.      ]
y points:
[ 0.      0.201293    0.51362402 -0.00999987]
d values:
[ 0.79785323  0.27980446 -0.24812436]
      172      173      1.9918e-08      6.41e-10      1.58e-04      6.51e-06

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Current map parameters:

x points:

[0. 0.29721952 0.69043167 1.]

y points:

[0. 0.20129408 0.51359106 0.00999987]

d values:

[0.79787347 0.27980335 -0.24816403]

173 174 1.9606e-08 3.12e-10 2.00e-02 6.45e-06

Current map parameters:

x points:

[0. 0.29714589 0.69051042 1.]

y points:

[0. 0.20129608 0.5135252 0.00999987]

d values:

[0.79791368 0.27980221 -0.24824264]

174 175 1.8995e-08 6.11e-10 1.54e-04 6.35e-06

Current map parameters:

x points:

[0. 0.2970741 0.69058841 1.]

y points:

[0. 0.20129788 0.51345941 0.00999989]

d values:

[0.79795331 0.2798032 -0.24831976]

175 176 1.8402e-08 5.92e-10 1.52e-04 6.24e-06

Current map parameters:

x points:

[0. 0.29703912 0.69062703 1.]

y points:

[0. 0.20129866 0.51342657 -0.00999988]

d values:

[0.79797287 0.27980474 -0.24835759]

176 177 1.8114e-08 2.88e-10 2.00e-02 6.19e-06

Current map parameters:

x points:

[0. 0.29700459 0.69066547 1.]

y points:

[0. 0.20129939 0.51339375 0.00999988]

d values:

[0.79799225 0.27980682 -0.24839506]

177 178 1.7831e-08 2.83e-10 2.00e-02 6.14e-06

Current map parameters:

x points:

[0. 0.2969705 0.69070372 1.]

y points:

[0. 0.20130007 0.51336095 -0.00999988]

d values:

[0.79801152 0.27980939 -0.24843218]

178 179 1.7552e-08 2.79e-10 2.00e-02 6.09e-06

179	180	1.7277e-08	2.75e-10	2.00e-02	6.04e-06
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Current map parameters:

x points:

[0. 0.29687045 0.69081759 1.]

y points:

[0. 0.20130182 0.51326266 0.00999988]

d values:

[0.79806864 0.27981972 -0.24854171]

180	181	1.6739e-08	5.38e-10	1.46e-04	5.94e-06
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Current map parameters:

x points:

[0. 0.29683814 0.69085514 1.]

y points:

[0. 0.20130227 0.51322993 -0.00999988]

d values:

[0.79808737 0.27982436 -0.2485774]

181	182	1.6477e-08	2.62e-10	2.00e-02	5.89e-06
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Current map parameters:

x points:

[0. 0.29680622 0.69089252 1.]

y points:

[0. 0.20130267 0.51319722 0.00999988]

d values:

[0.79810596 0.27982951 -0.24861274]

182	183	1.6219e-08	2.58e-10	2.00e-02	5.84e-06
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Current map parameters:

x points:

[0. 0.29677475 0.6909297 1.]

y points:

[0. 0.20130303 0.51316453 -0.00999988]

d values:

[0.79812443 0.27983515 -0.24864774]

183	184	1.5966e-08	2.54e-10	2.00e-02	5.79e-06
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Current map parameters:

x points:

[0. 0.29674371 0.69096673 1.]

y points:

[0. 0.20130331 0.51313186 0.00999988]

d values:

[0.79814276 0.27984131 -0.24868239]

184	185	1.5716e-08	2.50e-10	2.00e-02	5.74e-06
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Current map parameters:

x points:

[0. 0.29668246 0.69104044 1.]

y points:

[0. 0.20130378 0.51306652 0.0099999]

d values:

[0.79817917 0.27985461 -0.24875101]

185	186	1.5227e-08	4.89e-10	1.40e-04	5.65e-06
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Current map parameters:

x points:

[0. 0.29665268 0.69107697 1.]

y points:

[0. 0.20130391 0.51303388 -0.00999989]

d values:

[0.79819713 0.27986226 -0.24878463]

186	187	1.4989e-08	2.38e-10	2.00e-02	5.60e-06
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Current map parameters:

x points:

[0. 0.29662331 0.69111332 1.]

y points:

[0. 0.20130399 0.51300125 0.00999989]

d values:

[0.79821494 0.27987041 -0.24881793]

187	188	1.4754e-08	2.34e-10	2.00e-02	5.55e-06
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Current map parameters:

x points:

[0. 0.2965654 0.69118571 1.]

y points:

[0. 0.20130403 0.51293601 0.00999989]

d values:

[0.79825032 0.27988766 -0.24888386]

188	189	1.4295e-08	4.59e-10	1.37e-04	5.46e-06
189	190	1.4072e-08	2.23e-10	2.00e-02	5.42e-06

Current map parameters:

x points:

[0. 0.29648179 0.69129301 1.]

y points:

[0. 0.20130368 0.51283823 -0.00999989]

d values:

[0.7983024 0.27991745 -0.24898007]

190	191	1.3634e-08	4.38e-10	1.35e-04	5.33e-06
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Current map parameters:

x points:

[0. 0.29645487 0.69132841 1.]

y points:

[0. 0.20130345 0.51280565 0.00999989]

d values:

[0.79831947 0.27992851 -0.24901139]

191	192	1.3421e-08	2.13e-10	2.00e-02	5.28e-06
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Current map parameters:

x points:

[0. 0.29640178 0.69139892 1.]

y points:

[0. 0.20130287 0.51274051 0.00999989]

d values:


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[ 0.79835337  0.27995157 -0.24907338]
      192      193      1.3003e-08      4.18e-10      1.32e-04      5.19e-06
Current map parameters:
x points:
[0.      0.29635028 0.69146878 1.      ]
y points:
[0.      0.2013021  0.51267538 0.0099999 ]
d values:
[ 0.79838678  0.27997653 -0.24913409]
      193      194      1.2599e-08      4.04e-10      1.31e-04      5.11e-06
Current map parameters:
x points:
[0.      0.29632531 0.69150342 1.      ]
y points:
[ 0.      0.20130159  0.51264285 -0.0099999 ]
d values:
[ 0.79840324  0.27998995 -0.24916382]
      194      195      1.2402e-08      1.97e-10      2.00e-02      5.07e-06
Current map parameters:
x points:
[0.      0.29630072 0.69153792 1.      ]
y points:
[0.      0.20130105 0.51261028 0.00999991]
d values:
[ 0.79841959  0.28000384 -0.24919323]
      195      196      1.2209e-08      1.94e-10      2.00e-02      5.02e-06
Current map parameters:
x points:
[0.      0.2962523  0.69160661 1.      ]
y points:
[0.      0.20129987 0.51254518 0.0099999 ]
d values:
[ 0.79845206  0.28003253 -0.24925144]
      196      197      1.1829e-08      3.79e-10      1.29e-04      4.94e-06
Current map parameters:
x points:
[0.      0.29622885 0.69164067 1.      ]
y points:
[ 0.      0.20129918  0.51251264 -0.0099999 ]
d values:
[ 0.79846804  0.28004781 -0.24927993]
      197      198      1.1645e-08      1.85e-10      2.00e-02      4.90e-06
Current map parameters:
x points:
[0.      0.2961827  0.6917085 1.      ]
y points:
[ 0.      0.20129771  0.51244755 -0.0099999 ]
d values:

```

[0.7984998	0.28007923	-0.24933632]				
198	199	1.1283e-08	3.62e-10	1.27e-04	4.82e-06	
199	200	1.0932e-08	3.50e-10	1.26e-04	4.74e-06	

Current map parameters:

x points:

[0. 0.29609483 0.69184249 1.]

y points:

[0. 0.20129419 0.51231736 -0.00999991]

d values:

[0.79856193 0.28014752 -0.24944546]

200	201	1.0593e-08	3.39e-10	1.25e-04	4.66e-06
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.2960531 0.69190866 1.]

y points:

[0. 0.20129215 0.51225226 -0.00999991]

d values:

[0.79859231 0.28018433 -0.24949827]

201	202	1.0264e-08	3.29e-10	1.24e-04	4.59e-06
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29603292 0.6919415 1.]

y points:

[0. 0.20129104 0.5122197 0.00999991]

d values:

[0.79860728 0.28020361 -0.24952409]

202	203	1.0104e-08	1.60e-10	2.00e-02	4.55e-06
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29601312 0.69197418 1.]

y points:

[0. 0.2012899 0.51218714 -0.00999991]

d values:

[0.79862213 0.28022332 -0.24954963]

203	204	9.9469e-09	1.57e-10	2.00e-02	4.51e-06
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29597421 0.6920393 1.]

y points:

[0. 0.20128749 0.51212202 -0.00999991]

d values:

[0.79865162 0.2802636 -0.24960014]

204	205	9.6383e-09	3.09e-10	1.23e-04	4.44e-06
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.2959367 0.69210391 1.]

y points:

[0. 0.20128491 0.51205685 -0.00999993]

```

d values:
[ 0.79868068  0.28030559 -0.24964953]
      205      206      9.3395e-09      2.99e-10      1.22e-04      4.37e-06
Current map parameters:
x points:
[0.      0.29590058 0.69216802 1.      ]
y points:
[ 0.      0.20128216  0.51199168 -0.00999991]
d values:
[ 0.79870931  0.28034926 -0.2496978 ]
      206      207      9.0500e-09      2.89e-10      1.21e-04      4.30e-06
Current map parameters:
x points:
[0.      0.29588319 0.69219982 1.      ]
y points:
[0.      0.2012807  0.51195908 0.00999991]
d values:
[ 0.79872339  0.28037195 -0.24972139]
      207      208      8.9092e-09      1.41e-10      2.00e-02      4.26e-06
Current map parameters:
x points:
[0.      0.2958491  0.69226319 1.      ]
y points:
[0.      0.2012777  0.51189386 0.00999991]
d values:
[ 0.79875136  0.28041811 -0.24976804]
      208      209      8.6332e-09      2.76e-10      1.21e-04      4.19e-06
      209      210      8.3659e-09      2.67e-10      1.20e-04      4.12e-06
Current map parameters:
x points:
[0.      0.29578491 0.6923885  1.      ]
y points:
[0.      0.2012712  0.51176335 0.00999992]
d values:
[ 0.79880604  0.28051534 -0.24985809]
      210      211      8.1069e-09      2.59e-10      1.20e-04      4.06e-06
Current map parameters:
x points:
[0.      0.29576986 0.69241947 1.      ]
y points:
[ 0.      0.20126946  0.51173069 -0.00999992]
d values:
[ 0.79881939  0.28054085 -0.24987982]
      211      212      7.9810e-09      1.26e-10      2.00e-02      4.02e-06
Current map parameters:
x points:
[0.      0.29575511 0.69245035 1.      ]
y points:

```

```

[0.          0.20126767 0.51169803 0.00999992]
d values:
[ 0.79883264  0.28056676 -0.24990129]
      212          213          7.8570e-09      1.24e-10      2.00e-02      3.99e-06
Current map parameters:
x points:
[0.          0.29572626 0.69251183 1.          ]
y points:
[0.          0.20126405 0.51163268 0.00999992]
d values:
[ 0.79885894  0.28061934 -0.24994372]
      213          214          7.6140e-09      2.43e-10      1.19e-04      3.92e-06
Current map parameters:
x points:
[0.          0.29569869 0.69257288 1.          ]
y points:
[0.          0.20126024 0.51156732 0.00999992]
d values:
[ 0.79888483  0.28067349 -0.24998513]
      214          215          7.3786e-09      2.35e-10      1.19e-04      3.86e-06
Current map parameters:
x points:
[0.          0.29567238 0.69263349 1.          ]
y points:
[0.          0.2012563  0.51150188 0.00999994]
d values:
[ 0.79891031  0.28072916 -0.25002555]
      215          216          7.1506e-09      2.28e-10      1.19e-04      3.80e-06
Current map parameters:
x points:
[0.          0.29565984 0.69266358 1.          ]
y points:
[ 0.          0.20125425 0.51146915 -0.00999992]
d values:
[ 0.79892287  0.28075776 -0.25004526]
      216          217          7.0397e-09      1.11e-10      2.00e-02      3.77e-06
Current map parameters:
x points:
[0.          0.29564761 0.69269356 1.          ]
y points:
[0.          0.20125218 0.51143641 0.00999992]
d values:
[ 0.7989353  0.28078674 -0.25006473]
      217          218          6.9306e-09      1.09e-10      2.00e-02      3.74e-06
Current map parameters:
x points:
[0.          0.29563569 0.69272343 1.          ]
y points:

```

```

[ 0.          0.20125006  0.51140366 -0.009999993]
d values:
[ 0.79894764  0.28081606 -0.25008397]
      218          219          6.8231e-09          1.07e-10          2.00e-02          3.71e-06
      219          220          6.6125e-09          2.11e-10          1.18e-04          3.65e-06
Current map parameters:
x points:
[0.          0.29560142  0.69281254  1.          ]
y points:
[0.          0.20124355  0.51130536  0.009999993]
d values:
[ 0.79898417  0.28090589 -0.25014044]
      220          221          6.5101e-09          1.02e-10          2.00e-02          3.62e-06
Current map parameters:
x points:
[0.          0.29557998  0.69287146  1.          ]
y points:
[0.          0.20123905  0.51123977  0.009999993]
d values:
[ 0.79900808  0.28096746 -0.250177   ]
      221          222          6.3092e-09          2.01e-10          1.18e-04          3.56e-06
Current map parameters:
x points:
[0.          0.29556982  0.69290073  1.          ]
y points:
[ 0.          0.20123674  0.51120696 -0.009999993]
d values:
[ 0.79901983  0.28099896 -0.25019481]
      222          223          6.2116e-09          9.77e-11          2.00e-02          3.53e-06
Current map parameters:
x points:
[0.          0.29555998  0.69292988  1.          ]
y points:
[0.          0.20123441  0.51117414  0.009999993]
d values:
[ 0.79903149  0.28103082 -0.25021239]
      223          224          6.1154e-09          9.61e-11          2.00e-02          3.50e-06
Current map parameters:
x points:
[0.          0.29554086  0.692988   1.          ]
y points:
[0.          0.20122964  0.51110848  0.009999993]
d values:
[ 0.79905462  0.28109521 -0.2502471   ]
      224          225          5.9270e-09          1.88e-10          1.18e-04          3.44e-06
Current map parameters:
x points:
[0.          0.29552289  0.69304573  1.          ]

```

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y points:
[0.      0.20122476 0.51104275 0.00999995]
d values:
[ 0.79907737  0.28116099 -0.2502809 ]
      225      226      5.7444e-09      1.83e-10      1.18e-04      3.39e-06
Current map parameters:
x points:
[0.      0.29550606 0.69310308 1.      ]
y points:
[0.      0.20121975 0.51097699 0.00999993]
d values:
[ 0.79909976  0.28122814 -0.25031381]
      226      227      5.5675e-09      1.77e-10      1.18e-04      3.33e-06
Current map parameters:
x points:
[0.      0.29549035 0.69316005 1.      ]
y points:
[0.      0.20121463 0.51091118 0.00999993]
d values:
[ 0.79912175  0.28129664 -0.25034585]
      227      228      5.3961e-09      1.71e-10      1.19e-04      3.28e-06
Current map parameters:
x points:
[0.      0.29547574 0.69321664 1.      ]
y points:
[0.      0.2012094  0.51084533 0.00999993]
d values:
[ 0.79914338  0.28136644 -0.25037703]
      228      229      5.2302e-09      1.66e-10      1.19e-04      3.23e-06
      229      230      5.1494e-09      8.07e-11      2.00e-02      3.20e-06
Current map parameters:
x points:
[0.      0.29546248 0.69327278 1.      ]
y points:
[0.      0.20120402 0.51077942 0.00999994]
d values:
[ 0.79916456  0.28143786 -0.25040712]
      230      231      5.0700e-09      7.95e-11      2.00e-02      3.18e-06
Current map parameters:
x points:
[0.      0.29545627 0.69330072 1.      ]
y points:
[ 0.      0.2012013  0.51074645 -0.00999994]
d values:
[ 0.79917501  0.28147404 -0.25042185]
      231      232      4.9917e-09      7.82e-11      2.00e-02      3.15e-06
Current map parameters:
x points:

```

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[0.          0.29545029 0.69332858 1.          ]
y points:
[0.          0.20119854 0.51071347 0.009999994]
d values:
[ 0.79918537  0.28151054 -0.25043639]
      232      233      4.9147e-09      7.70e-11      2.00e-02      3.12e-06
Current map parameters:
x points:
[0.          0.29544459 0.69335632 1.          ]
y points:
[ 0.          0.20119578  0.51068048 -0.009999994]
d values:
[ 0.79919564  0.28154735 -0.25045071]
      233      234      4.8390e-09      7.58e-11      2.00e-02      3.10e-06
Current map parameters:
x points:
[0.          0.29543371 0.69341166 1.          ]
y points:
[ 0.          0.20119015  0.5106145  -0.009999994]
d values:
[ 0.79921601  0.28162157 -0.25047896]
      234      235      4.6904e-09      1.49e-10      1.20e-04      3.05e-06
Current map parameters:
x points:
[0.          0.29542879 0.69343916 1.          ]
y points:
[0.          0.2011873  0.51058146 0.009999995]
d values:
[ 0.79922602  0.28165929 -0.25049268]
      235      236      4.6181e-09      7.23e-11      2.00e-02      3.03e-06
Current map parameters:
x points:
[0.          0.29542413 0.69346657 1.          ]
y points:
[ 0.          0.20118442  0.51054843 -0.009999994]
d values:
[ 0.79923595  0.28169731 -0.2505062 ]
      236      237      4.5470e-09      7.11e-11      2.00e-02      3.00e-06
Current map parameters:
x points:
[0.          0.29541971 0.6934939  1.          ]
y points:
[0.          0.20118152 0.51051539 0.009999994]
d values:
[ 0.79924577  0.28173565 -0.25051953]
      237      238      4.4769e-09      7.00e-11      2.00e-02      2.98e-06
Current map parameters:
x points:

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[0.          0.29541139 0.69354838 1.          ]
y points:
[0.          0.20117566 0.5104493  0.00999994]
d values:
[ 0.79926526  0.28181285 -0.2505458 ]
      238          239          4.3396e-09          1.37e-10          1.20e-04          2.93e-06
      239          240          4.2728e-09          6.68e-11          2.00e-02          2.91e-06
Current map parameters:
x points:
[0.          0.29540089 0.69362943 1.          ]
y points:
[ 0.          0.2011667  0.51035008 -0.00999994]
d values:
[ 0.79929381  0.28193099 -0.25058362]
      240          241          4.1419e-09          1.31e-10          1.21e-04          2.86e-06
Current map parameters:
x points:
[0.          0.29539505 0.69368309 1.          ]
y points:
[ 0.          0.20116062 0.51028389 -0.00999994]
d values:
[ 0.79931244  0.28201108 -0.25060796]
      241          242          4.0150e-09          1.27e-10          1.21e-04          2.81e-06
Current map parameters:
x points:
[0.          0.29539014 0.69373644 1.          ]
y points:
[ 0.          0.20115446 0.51021767 -0.00999994]
d values:
[ 0.79933074  0.28209228 -0.25063155]
      242          243          3.8921e-09          1.23e-10          1.22e-04          2.77e-06
Current map parameters:
x points:
[0.          0.2953862  0.69378943 1.          ]
y points:
[ 0.          0.20114823 0.51015141 -0.00999994]
d values:
[ 0.7993487  0.28217456 -0.2506544 ]
      243          244          3.7730e-09          1.19e-10          1.22e-04          2.72e-06
Current map parameters:
x points:
[0.          0.2953847  0.69381578 1.          ]
y points:
[0.          0.20114505 0.51011828 0.00999995]
d values:
[ 0.79935752  0.28221624 -0.25066547]
      244          245          3.7151e-09          5.79e-11          2.00e-02          2.70e-06
Current map parameters:

```



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x points:
[0.          0.29538343 0.69384206 1.          ]
y points:
[ 0.          0.20114187  0.51008511 -0.00999996]
d values:
[ 0.79936626  0.28225818 -0.25067636]
      245          246          3.6581e-09          5.70e-11          2.00e-02          2.68e-06
Current map parameters:
x points:
[0.          0.29538134 0.69389445 1.          ]
y points:
[ 0.          0.20113547  0.5100188  -0.00999995]
d values:
[ 0.79938358  0.28234256 -0.25069778]
      246          247          3.5463e-09          1.12e-10          1.23e-04          2.64e-06
Current map parameters:
x points:
[0.          0.29538074 0.69392049 1.          ]
y points:
[0.          0.20113223 0.50998563 0.00999995]
d values:
[ 0.79939206  0.28238528 -0.25070814]
      247          248          3.4919e-09          5.44e-11          2.00e-02          2.62e-06
Current map parameters:
x points:
[0.          0.29538037 0.69394645 1.          ]
y points:
[ 0.          0.20112898  0.50995245 -0.00999995]
d values:
[ 0.79940047  0.28242822 -0.25071834]
      248          249          3.4384e-09          5.35e-11          2.00e-02          2.60e-06
      249          250          3.3857e-09          5.27e-11          2.00e-02          2.57e-06
Current map parameters:
x points:
[0.          0.29538036 0.69402398 1.          ]
y points:
[0.          0.20111913 0.5098529  0.00999995]
d values:
[ 0.79942531  0.28255829 -0.25074805]
      250          251          3.2823e-09          1.03e-10          1.24e-04          2.53e-06
Current map parameters:
x points:
[0.          0.29538088 0.69404964 1.          ]
y points:
[ 0.          0.20111581  0.50981971 -0.00999995]
d values:
[ 0.79943341  0.28260222 -0.25075756]
      251          252          3.2320e-09          5.03e-11          2.00e-02          2.51e-06

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Current map parameters:

x points:

[0. 0.29538158 0.69407525 1.]

y points:

[0. 0.20111247 0.50978651 0.00999995]

d values:

[0.79944143 0.28264637 -0.25076691]

252

253

3.1825e-09

4.95e-11

2.00e-02

2.49e-06

Current map parameters:

x points:

[0. 0.29538343 0.69412628 1.]

y points:

[0. 0.20110578 0.5097201 0.00999995]

d values:

[0.79945731 0.28273515 -0.25078528]

253

254

3.0855e-09

9.70e-11

1.25e-04

2.45e-06

Current map parameters:

x points:

[0. 0.29538613 0.69417703 1.]

y points:

[0. 0.20109899 0.5096537 0.00999995]

d values:

[0.79947289 0.28282485 -0.250803]

254

255

2.9915e-09

9.40e-11

1.25e-04

2.42e-06

Current map parameters:

x points:

[0. 0.29538965 0.69422749 1.]

y points:

[0. 0.20109217 0.50958725 0.00999997]

d values:

[0.79948816 0.28291545 -0.25082008]

255

256

2.9004e-09

9.11e-11

1.26e-04

2.38e-06

Current map parameters:

x points:

[0. 0.29539399 0.69427767 1.]

y points:

[0. 0.20108529 0.50952081 0.00999995]

d values:

[0.79950314 0.28300692 -0.25083653]

256

257

2.8121e-09

8.83e-11

1.26e-04

2.34e-06

Current map parameters:

x points:

[0. 0.29539912 0.69432757 1.]

y points:

[0. 0.20107835 0.50945436 0.00999995]

d values:

[0.7995178 0.28309926 -0.25085236]

257

258

2.7265e-09

8.56e-11

1.26e-04

2.30e-06

Current map parameters:

x points:

[0. 0.29540505 0.69437719 1.]

y points:

[0. 0.20107137 0.50938792 0.00999995]

d values:

[0.79953217 0.2831924 -0.25086761]

258	259	2.6436e-09	8.29e-11	1.27e-04	2.27e-06
259	260	2.6032e-09	4.03e-11	2.00e-02	2.25e-06

Current map parameters:

x points:

[0. 0.29541546 0.69445107 1.]

y points:

[0. 0.2010608 0.50928825 -0.00999996]

d values:

[0.79955316 0.28333374 -0.25088925]

260	261	2.5241e-09	7.91e-11	1.27e-04	2.21e-06
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Current map parameters:

x points:

[0. 0.29541938 0.69447554 1.]

y points:

[0. 0.20105725 0.50925503 0.00999996]

d values:

[0.79955999 0.28338131 -0.25089613]

261	262	2.4856e-09	3.85e-11	2.00e-02	2.19e-06
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Current map parameters:

x points:

[0. 0.29542755 0.69452435 1.]

y points:

[0. 0.20105013 0.5091886 0.00999996]

d values:

[0.7995735 0.28347681 -0.2509096]

262	263	2.4102e-09	7.55e-11	1.28e-04	2.16e-06
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Current map parameters:

x points:

[0. 0.29543201 0.69454861 1.]

y points:

[0. 0.20104657 0.5091554 -0.00999996]

d values:

[0.79958012 0.28352494 -0.25091606]

263	264	2.3735e-09	3.67e-11	2.00e-02	2.14e-06
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Current map parameters:

x points:

[0. 0.29543664 0.69457281 1.]

y points:

[0. 0.20104296 0.50912221 0.00999996]

d values:

[0.79958667 0.28357324 -0.25092238]

264	265	2.3373e-09	3.62e-11	2.00e-02	2.13e-06
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Current map parameters:

x points:

[0. 0.29544145 0.69459694 1.]

y points:

[0. 0.20103936 0.50908899 -0.00999997]

d values:

[0.79959315 0.28362172 -0.25092856]

265	266	2.3017e-09	3.56e-11	2.00e-02	2.11e-06
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Current map parameters:

x points:

[0. 0.29544643 0.69462101 1.]

y points:

[0. 0.20103575 0.5090558 0.00999996]

d values:

[0.79959958 0.28367037 -0.2509346]

266	267	2.2667e-09	3.50e-11	2.00e-02	2.09e-06
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Current map parameters:

x points:

[0. 0.29545158 0.69464501 1.]

y points:

[0. 0.20103214 0.50902262 -0.00999996]

d values:

[0.79960591 0.2837192 -0.25094051]

267	268	2.2322e-09	3.45e-11	2.00e-02	2.08e-06
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Current map parameters:

x points:

[0. 0.29546223 0.69469288 1.]

y points:

[0. 0.20102488 0.50895626 -0.00999996]

d values:

[0.79961846 0.28381716 -0.25095207]

268	269	2.1645e-09	6.77e-11	1.29e-04	2.04e-06
269	270	2.0989e-09	6.56e-11	1.30e-04	2.01e-06

Current map parameters:

x points:

[0. 0.29548555 0.69478784 1.]

y points:

[0. 0.20101029 0.50882362 -0.00999996]

d values:

[0.79964277 0.28401508 -0.25097357]

270	271	2.0354e-09	6.36e-11	1.30e-04	1.98e-06
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Current map parameters:

x points:

[0. 0.29549189 0.69481139 1.]

y points:

[0. 0.20100661 0.50879049 0.00999996]

d values:

```

[ 0.79964865  0.28406503 -0.25097857]
      271      272      2.0045e-09      3.09e-11      2.00e-02      1.96e-06
Current map parameters:
x points:
[0.      0.29549836 0.69483489 1.      ]
y points:
[ 0.      0.20100294  0.50875737 -0.00999996]
d values:
[ 0.79965446  0.28411513 -0.25098344]
      272      273      1.9740e-09      3.05e-11      2.00e-02      1.95e-06
Current map parameters:
x points:
[0.      0.29551163 0.69488171 1.      ]
y points:
[ 0.      0.20099558  0.50869114 -0.00999996]
d values:
[ 0.79966597  0.28421562 -0.25099293]
      273      274      1.9143e-09      5.97e-11      1.31e-04      1.92e-06
Current map parameters:
x points:
[0.      0.29552553 0.69492829 1.      ]
y points:
[ 0.      0.20098818  0.50862498 -0.00999996]
d values:
[ 0.79967722  0.28431667 -0.25100193]
      274      275      1.8564e-09      5.79e-11      1.31e-04      1.89e-06
Current map parameters:
x points:
[0.      0.29553278 0.69495146 1.      ]
y points:
[0.      0.20098447 0.5085919  0.00999998]
d values:
[ 0.79968271  0.28436748 -0.25100619]
      275      276      1.8282e-09      2.82e-11      2.00e-02      1.87e-06
Current map parameters:
x points:
[0.      0.29554758 0.69499767 1.      ]
y points:
[0.      0.20097704 0.50852579 0.00999996]
d values:
[ 0.7996936  0.28446936 -0.25101447]
      276      277      1.7730e-09      5.52e-11      1.32e-04      1.84e-06
Current map parameters:
x points:
[0.      0.29555528 0.69502064 1.      ]
y points:
[ 0.      0.20097332  0.50849277 -0.00999996]
d values:

```

[0.7996989	0.28452057	-0.25101838]				
277	278	1.7461e-09	2.69e-11	2.00e-02	1.83e-06	

Current map parameters:

x points:

[0. 0.29557096 0.69506647 1.]

y points:

[0. 0.20096587 0.50842675 -0.00999996]

d values:

[0.79970941	0.2846232	-0.25102597]				
278	279	1.6934e-09	5.27e-11	1.32e-04	1.80e-06	
279	280	1.6677e-09	2.57e-11	2.00e-02	1.78e-06	

Current map parameters:

x points:

[0. 0.29558734 0.69511199 1.]

y points:

[0. 0.2009584 0.50836081 -0.00999996]

d values:

[0.79971962	0.28472644	-0.25103298]				
280	281	1.6425e-09	2.53e-11	2.00e-02	1.77e-06	

Current map parameters:

x points:

[0. 0.29560415 0.69515733 1.]

y points:

[0. 0.20095092 0.50829493 -0.00999996]

d values:

[0.79972965	0.28483002	-0.25103967]				
281	282	1.5929e-09	4.95e-11	1.33e-04	1.74e-06	

Current map parameters:

x points:

[0. 0.29562147 0.69520243 1.]

y points:

[0. 0.20094342 0.50822912 -0.00999997]

d values:

[0.79973945	0.28493405	-0.25104592]				
282	283	1.5449e-09	4.80e-11	1.33e-04	1.72e-06	

Current map parameters:

x points:

[0. 0.2956304 0.69522483 1.]

y points:

[0. 0.20093968 0.50819625 0.00999997]

d values:

[0.79974423	0.28498627	-0.25104883]				
283	284	1.5215e-09	2.34e-11	2.00e-02	1.70e-06	

Current map parameters:

x points:

[0. 0.29563946 0.69524719 1.]

y points:

[0. 0.20093591 0.50816342 -0.00999997]

```

d values:
[ 0.79974896  0.2850386 -0.25105164]
      284      285      1.4985e-09      2.30e-11      2.00e-02      1.69e-06
Current map parameters:
x points:
[0.      0.29565783 0.69529179 1.      ]
y points:
[ 0.      0.2009284  0.50809775 -0.00999998]
d values:
[ 0.7997583  0.28514344 -0.25105705]
      285      286      1.4534e-09      4.51e-11      1.33e-04      1.66e-06
Current map parameters:
x points:
[0.      0.29566726 0.69531396 1.      ]
y points:
[0.      0.20092464 0.50806497 0.00999997]
d values:
[ 0.79976288  0.28519605 -0.25105954]
      286      287      1.4314e-09      2.20e-11      2.00e-02      1.65e-06
Current map parameters:
x points:
[0.      0.29568637 0.69535819 1.      ]
y points:
[0.      0.20091711 0.50799945 0.00999997]
d values:
[ 0.79977187  0.28530146 -0.25106434]
      287      288      1.3883e-09      4.31e-11      1.34e-04      1.62e-06
Current map parameters:
x points:
[0.      0.29569617 0.69538019 1.      ]
y points:
[ 0.      0.20091335  0.50796674 -0.00999997]
d values:
[ 0.79977627  0.28535431 -0.25106656]
      288      289      1.3673e-09      2.10e-11      2.00e-02      1.61e-06
      289      290      1.3262e-09      4.11e-11      1.34e-04      1.59e-06
Current map parameters:
x points:
[0.      0.29573629 0.69546768 1.      ]
y points:
[ 0.      0.20089829  0.5078361  -0.00999997]
d values:
[ 0.79979342  0.28556643 -0.25107457]
      290      291      1.2863e-09      3.99e-11      1.34e-04      1.56e-06
Current map parameters:
x points:
[0.      0.29574667 0.69548937 1.      ]
y points:

```

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[0.          0.20089452 0.50780352 0.009999997]
d values:
[ 0.79979755  0.28561969 -0.25107629]
      291          292          1.2669e-09          1.94e-11          2.00e-02          1.55e-06
Current map parameters:
x points:
[0.          0.29576761 0.69553264 1.          ]
y points:
[0.          0.20088699 0.50773841 0.009999997]
d values:
[ 0.79980571  0.28572634 -0.25107955]
      292          293          1.2288e-09          3.81e-11          1.34e-04          1.52e-06
Current map parameters:
x points:
[0.          0.2957783  0.69555414 1.          ]
y points:
[ 0.          0.20088324 0.50770591 -0.009999997]
d values:
[ 0.79980968  0.28577979 -0.251081  ]
      293          294          1.2102e-09          1.85e-11          2.00e-02          1.51e-06
Current map parameters:
x points:
[0.          0.29579989 0.69559704 1.          ]
y points:
[ 0.          0.20087569 0.507641  -0.009999997]
d values:
[ 0.79981754  0.28588682 -0.25108372]
      294          295          1.1739e-09          3.64e-11          1.35e-04          1.49e-06
Current map parameters:
x points:
[0.          0.29582189 0.6956397  1.          ]
y points:
[ 0.          0.20086817 0.50757618 -0.009999999]
d values:
[ 0.79982519  0.28599409 -0.25108609]
      295          296          1.1386e-09          3.53e-11          1.35e-04          1.47e-06
Current map parameters:
x points:
[0.          0.29584429 0.69568212 1.          ]
y points:
[ 0.          0.20086065 0.5075115  -0.009999997]
d values:
[ 0.79983266  0.28610156 -0.25108811]
      296          297          1.1044e-09          3.42e-11          1.35e-04          1.44e-06
Current map parameters:
x points:
[0.          0.29586707 0.6957243  1.          ]
y points:

```



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[ 0.          0.20085314  0.50744695 -0.00999997]
d values:
[ 0.7998399   0.28620924 -0.2510898 ]
      297          298          1.0713e-09          3.31e-11          1.35e-04          1.42e-06
Current map parameters:
x points:
[0.          0.29589023 0.69576624 1.          ]
y points:
[ 0.          0.20084564  0.50738254 -0.00999997]
d values:
[ 0.79984698   0.28631706 -0.25109118]
      298          299          1.0391e-09          3.21e-11          1.35e-04          1.40e-06
      299          300          1.0235e-09          1.57e-11          2.00e-02          1.39e-06
Current map parameters:
x points:
[0.          0.29591383 0.69580788 1.          ]
y points:
[ 0.          0.20083815  0.50731832 -0.00999997]
d values:
[ 0.79985381   0.28642508 -0.25109212]
      300          301          1.0081e-09          1.54e-11          2.00e-02          1.38e-06
Current map parameters:
x points:
[0.          0.2959377  0.69584934 1.          ]
y points:
[ 0.          0.20083067  0.50725421 -0.00999997]
d values:
[ 0.79986052   0.28653319 -0.25109285]
      301          302          9.7783e-10          3.02e-11          1.35e-04          1.36e-06
Current map parameters:
x points:
[0.          0.29594978 0.69586997 1.          ]
y points:
[0.          0.20082693 0.50722223 0.00999997]
d values:
[ 0.79986378   0.2865873  -0.25109306]
      302          303          9.6311e-10          1.47e-11          2.00e-02          1.34e-06
Current map parameters:
x points:
[0.          0.29597414 0.69591105 1.          ]
y points:
[0.          0.20081948 0.50715835 0.00999997]
d values:
[ 0.79987021   0.28669557 -0.25109333]
      303          304          9.3424e-10          2.89e-11          1.35e-04          1.32e-06
Current map parameters:
x points:
[0.          0.29598647 0.69593149 1.          ]

```

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y points:
[ 0.          0.20081574  0.50712651 -0.00999997]
d values:
[ 0.79987334  0.28674974 -0.25109332]
      304          305          9.2018e-10      1.41e-11      2.00e-02      1.31e-06
Current map parameters:
x points:
[0.          0.29599888  0.69595186  1.          ]
y points:
[0.          0.20081202  0.50709468  0.00999999]
d values:
[ 0.79987643  0.28680393 -0.25109324]
      305          306          9.0634e-10      1.38e-11      2.00e-02      1.30e-06
Current map parameters:
x points:
[0.          0.29602385  0.69599248  1.          ]
y points:
[0.          0.20080459  0.50703113  0.00999997]
d values:
[ 0.79988253  0.28691233 -0.25109293]
      306          307          8.7918e-10      2.72e-11      1.35e-04      1.28e-06
Current map parameters:
x points:
[0.          0.29604911  0.69603286  1.          ]
y points:
[0.          0.20079717  0.50696776  0.00999997]
d values:
[ 0.79988844  0.2870208  -0.25109235]
      307          308          8.5285e-10      2.63e-11      1.35e-04      1.26e-06
Current map parameters:
x points:
[0.          0.29607465  0.69607301  1.          ]
y points:
[0.          0.20078977  0.50690457  0.00999997]
d values:
[ 0.79989419  0.28712926 -0.2510915 ]
      308          309          8.2731e-10      2.55e-11      1.35e-04      1.24e-06
      309          310          8.0253e-10      2.48e-11      1.34e-04      1.22e-06
Current map parameters:
x points:
[0.          0.29611351  0.69613274  1.          ]
y points:
[ 0.          0.20077871  0.50681015 -0.00999998]
d values:
[ 0.7999025  0.28729197 -0.25108967]
      310          311          7.9047e-10      1.21e-11      2.00e-02      1.21e-06
Current map parameters:
x points:

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[0.          0.29612662 0.69615251 1.          ]
y points:
[0.          0.20077504 0.50677879 0.00999998]
d values:
[ 0.79990517  0.2873462 -0.25108891]
      311          312          7.7859e-10          1.19e-11          2.00e-02          1.20e-06
Current map parameters:
x points:
[0.          0.29615292 0.69619195 1.          ]
y points:
[0.          0.2007677  0.50671616 0.00999998]
d values:
[ 0.79991045  0.28745463 -0.25108728]
      312          313          7.5528e-10          2.33e-11          1.34e-04          1.19e-06
Current map parameters:
x points:
[0.          0.29616619 0.69621153 1.          ]
y points:
[ 0.          0.20076405  0.50668495 -0.00999998]
d values:
[ 0.79991301  0.28750882 -0.25108634]
      313          314          7.4393e-10          1.14e-11          2.00e-02          1.18e-06
Current map parameters:
x points:
[0.          0.29617952 0.69623106 1.          ]
y points:
[0.          0.20076038 0.50665381 0.00999998]
d values:
[ 0.79991553  0.28756299 -0.25108534]
      314          315          7.3275e-10          1.12e-11          2.00e-02          1.17e-06
Current map parameters:
x points:
[0.          0.29620629 0.69627      1.          ]
y points:
[0.          0.20075309 0.50659157 0.00999999]
d values:
[ 0.79992051  0.2876713  -0.25108322]
      315          316          7.1083e-10          2.19e-11          1.34e-04          1.15e-06
Current map parameters:
x points:
[0.          0.29621979 0.69628935 1.          ]
y points:
[ 0.          0.20074945  0.50656057 -0.00999998]
d values:
[ 0.79992294  0.28772541 -0.25108204]
      316          317          7.0015e-10          1.07e-11          2.00e-02          1.14e-06
Current map parameters:
x points:

```

```

[0.          0.29623333 0.69630864 1.          ]
y points:
[0.          0.20074582 0.50652962 0.00999998]
d values:
[ 0.7999253   0.28777952 -0.25108081]
      317          318          6.8963e-10          1.05e-11          2.00e-02          1.13e-06
Current map parameters:
x points:
[0.          0.29626051 0.6963471  1.          ]
y points:
[0.          0.20073858 0.50646782 0.00999998]
d values:
[ 0.79992998   0.28788762 -0.25107825]
      318          319          6.6900e-10          2.06e-11          1.33e-04          1.11e-06
      319          320          6.4899e-10          2.00e-11          1.33e-04          1.10e-06
Current map parameters:
x points:
[0.          0.29631543 0.69642329 1.          ]
y points:
[0.          0.20072416 0.5063449  0.00999998]
d values:
[ 0.79993893   0.28810348 -0.25107244]
      320          321          6.2958e-10          1.94e-11          1.33e-04          1.08e-06
Current map parameters:
x points:
[0.          0.29632931 0.69644216 1.          ]
y points:
[ 0.          0.20072058  0.50631434 -0.00999998]
d values:
[ 0.79994106   0.28815734 -0.25107083]
      321          322          6.2013e-10          9.46e-12          2.00e-02          1.07e-06
Current map parameters:
x points:
[0.          0.2963432  0.69646098 1.          ]
y points:
[0.          0.200717   0.50628384 0.00999998]
d values:
[ 0.79994316   0.28821115 -0.25106917]
      322          323          6.1082e-10          9.31e-12          2.00e-02          1.06e-06
Current map parameters:
x points:
[0.          0.29635714 0.69647971 1.          ]
y points:
[ 0.          0.20071345  0.5062534  -0.00999998]
d values:
[ 0.79994523   0.28826492 -0.25106747]
      323          324          6.0164e-10          9.17e-12          2.00e-02          1.05e-06
Current map parameters:

```

```

x points:
[0.      0.29637112 0.6964984  1.      ]
y points:
[0.      0.20070987 0.50622303 0.00999998]
d values:
[ 0.79994727  0.28831864 -0.25106571]
      324      325      5.9261e-10      9.03e-12      2.00e-02      1.05e-06
Current map parameters:
x points:
[0.      0.29638513 0.69651702 1.      ]
y points:
[ 0.      0.20070631  0.5061927  -0.00999999]
d values:
[ 0.79994927  0.28837231 -0.25106391]
      325      326      5.8371e-10      8.90e-12      2.00e-02      1.04e-06
Current map parameters:
x points:
[0.      0.29641323 0.69655415 1.      ]
y points:
[ 0.      0.20069922  0.50613218 -0.00999998]
d values:
[ 0.79995323  0.28847956 -0.25106021]
      326      327      5.6626e-10      1.75e-11      1.32e-04      1.02e-06
Current map parameters:
x points:
[0.      0.29644146 0.69659103 1.      ]
y points:
[ 0.      0.20069215  0.5060719  -0.00999998]
d values:
[ 0.79995704  0.28858661 -0.25105632]
      327      328      5.4933e-10      1.69e-11      1.32e-04      1.01e-06
Current map parameters:
x points:
[0.      0.29646982 0.69662767 1.      ]
y points:
[ 0.      0.20068512  0.50601188 -0.00999998]
d values:
[ 0.79996073  0.2886934  -0.25105227]
      328      329      5.3290e-10      1.64e-11      1.31e-04      9.91e-07
      329      330      5.1697e-10      1.59e-11      1.31e-04      9.75e-07
Current map parameters:
x points:
[0.      0.29652688 0.69670021 1.      ]
y points:
[ 0.      0.20067115  0.50589261 -0.00999998]
d values:
[ 0.79996777  0.28890628 -0.2510436 ]
      330      331      5.0151e-10      1.55e-11      1.31e-04      9.60e-07

```

Current map parameters:

x points:

[0. 0.29654124 0.69671816 1.]

y points:

[0. 0.20066768 0.50586299 0.00999998]

d values:

[0.79996944 0.2889593 -0.25104132]

331 332 4.9398e-10 7.53e-12 2.00e-02 9.53e-07

Current map parameters:

x points:

[0. 0.29656995 0.69675396 1.]

y points:

[0. 0.20066077 0.50580388 0.00999998]

d values:

[0.79997272 0.2890652 -0.25103667]

332 333 4.7921e-10 1.48e-11 1.30e-04 9.38e-07

Current map parameters:

x points:

[0. 0.29658436 0.69677172 1.]

y points:

[0. 0.20065734 0.50577446 -0.00999998]

d values:

[0.79997431 0.289118 -0.25103426]

333 334 4.7202e-10 7.20e-12 2.00e-02 9.31e-07

Current map parameters:

x points:

[0. 0.2966132 0.69680713 1.]

y points:

[0. 0.20065046 0.50571578 -0.00999998]

d values:

[0.79997743 0.28922345 -0.25102938]

334 335 4.5790e-10 1.41e-11 1.29e-04 9.16e-07

Current map parameters:

x points:

[0. 0.29662766 0.69682471 1.]

y points:

[0. 0.20064704 0.50568656 0.01]

d values:

[0.79997893 0.28927602 -0.25102687]

335 336 4.5103e-10 6.88e-12 2.00e-02 9.09e-07

Current map parameters:

x points:

[0. 0.29665661 0.69685976 1.]

y points:

[0. 0.20064023 0.50562828 0.00999998]

d values:

[0.79998191 0.28938099 -0.25102177]

336 337 4.3754e-10 1.35e-11 1.29e-04 8.95e-07

Current map parameters:

x points:

[0. 0.29668562 0.69689456 1.]

y points:

[0. 0.20063345 0.50557029 0.00999998]

d values:

[0.79998475 0.28948564 -0.25101653]
337 338 4.2445e-10 1.31e-11 1.28e-04 8.81e-07

Current map parameters:

x points:

[0. 0.29670014 0.69691183 1.]

y points:

[0. 0.20063009 0.50554144 -0.00999998]

d values:

[0.79998612 0.28953777 -0.25101386]
338 339 4.1808e-10 6.38e-12 2.00e-02 8.74e-07
339 340 4.1180e-10 6.28e-12 2.00e-02 8.68e-07

Current map parameters:

x points:

[0. 0.29674377 0.69696335 1.]

y points:

[0. 0.20062002 0.50545525 0.00999998]

d values:

[0.79999013 0.28969374 -0.25100563]
340 341 3.9948e-10 1.23e-11 1.27e-04 8.54e-07

Current map parameters:

x points:

[0. 0.29675835 0.69698038 1.]

y points:

[0. 0.20061669 0.5054267 -0.00999998]

d values:

[0.79999141 0.28974552 -0.25100282]
341 342 3.9348e-10 6.00e-12 2.00e-02 8.47e-07

Current map parameters:

x points:

[0. 0.2967729 0.69699736 1.]

y points:

[0. 0.20061337 0.50539822 0.00999998]

d values:

[0.79999267 0.28979719 -0.25099998]
342 343 3.8757e-10 5.91e-12 2.00e-02 8.41e-07

Current map parameters:

x points:

[0. 0.29678747 0.69701425 1.]

y points:

[0. 0.20061007 0.50536981 -0.00999998]

d values:

[0.7999939 0.28984877 -0.25099711]

343	344	3.8174e-10	5.82e-12	2.00e-02	8.34e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29680204 0.69703109 1.]

y points:

[0. 0.20060675 0.5053415 0.00999998]

d values:

[0.79999511 0.28990024 -0.25099421]

344	345	3.7601e-10	5.74e-12	2.00e-02	8.28e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29681662 0.69704787 1.]

y points:

[0. 0.20060346 0.50531323 -0.01]

d values:

[0.7999963 0.28995162 -0.25099129]

345	346	3.7035e-10	5.65e-12	2.00e-02	8.21e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29684578 0.69708131 1.]

y points:

[0. 0.20059689 0.50525689 -0.00999998]

d values:

[0.79999865 0.29005416 -0.25098538]

346	347	3.5927e-10	1.11e-11	1.25e-04	8.08e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29686036 0.6970979 1.]

y points:

[0. 0.20059362 0.50522887 0.00999998]

d values:

[0.79999976 0.29010524 -0.25098237]

347	348	3.5387e-10	5.40e-12	2.00e-02	8.02e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29688951 0.69713097 1.]

y points:

[0. 0.20058711 0.50517299 0.00999998]

d values:

[0.80000196 0.29020713 -0.25097632]

348	349	3.4328e-10	1.06e-11	1.25e-04	7.90e-07
349	350	3.3812e-10	5.16e-12	2.00e-02	7.84e-07

Current map parameters:

x points:

[0. 0.29691866 0.69716372 1.]

y points:

[0. 0.20058065 0.5051175 0.00999998]

d values:


```

[ 0.80000405  0.29030849 -0.25097012]
      350      351      3.3303e-10      5.08e-12      2.00e-02      7.77e-07
Current map parameters:
x points:
[0.      0.29693325 0.69718      1.      ]
y points:
[ 0.      0.20057744  0.50508988 -0.00999998]
d values:
[ 0.80000507  0.290359  -0.25096699]
      351      352      3.2802e-10      5.01e-12      2.00e-02      7.71e-07
Current map parameters:
x points:
[0.      0.29696235 0.69721246 1.      ]
y points:
[ 0.      0.20057103  0.5050348  -0.00999998]
d values:
[ 0.80000707  0.29045979 -0.25096068]
      352      353      3.1820e-10      9.82e-12      1.23e-04      7.59e-07
Current map parameters:
x points:
[0.      0.29699145 0.69724464 1.      ]
y points:
[ 0.      0.20056467  0.50498004 -0.00999998]
d values:
[ 0.80000898  0.29056011 -0.25095428]
      353      354      3.0867e-10      9.53e-12      1.23e-04      7.48e-07
Current map parameters:
x points:
[0.      0.29702052 0.69727658 1.      ]
y points:
[ 0.      0.20055833  0.50492562 -0.00999999]
d values:
[ 0.80001082  0.29065996 -0.2509478 ]
      354      355      2.9942e-10      9.25e-12      1.22e-04      7.36e-07
Current map parameters:
x points:
[0.      0.29704955 0.69730827 1.      ]
y points:
[ 0.      0.20055205  0.50487151 -0.00999997]
d values:
[ 0.80001258  0.29075933 -0.25094124]
      355      356      2.9044e-10      8.97e-12      1.21e-04      7.25e-07
Current map parameters:
x points:
[0.      0.29706405 0.69732399 1.      ]
y points:
[0.      0.20054893 0.50484463 0.00999999]
d values:

```

[0.80001344	0.29080876	-0.25093792]				
356	357	2.8607e-10	4.37e-12	2.00e-02	7.19e-07	

Current map parameters:

x points:

[0.	0.29709301	0.69735531	1.]
-----	------------	------------	----	---

y points:

[0.	0.20054271	0.50479103	0.00999999]
-----	------------	------------	-------------

d values:

[0.80001507	0.29090739	-0.25093125]				
357	358	2.7749e-10	8.58e-12	1.20e-04	7.08e-07	

Current map parameters:

x points:

[0.	0.29712192	0.69738638	1.]
-----	------------	------------	----	---

y points:

[0.	0.20053653	0.50473777	0.00999999]
-----	------------	------------	-------------

d values:

[0.80001665	0.29100548	-0.25092452]				
358	359	2.6917e-10	8.32e-12	1.20e-04	6.97e-07	
359	360	2.6110e-10	8.07e-12	1.19e-04	6.87e-07	

Current map parameters:

x points:

[0.	0.29717955	0.69744777	1.]
-----	------------	------------	----	---

y points:

[0.	0.20052431	0.50463228	0.00999999]
-----	------------	------------	-------------

d values:

[0.80001961	0.29120012	-0.25091081]				
360	361	2.5326e-10	7.83e-12	1.18e-04	6.76e-07	

Current map parameters:

x points:

[0.	0.29720827	0.69747808	1.]
-----	------------	------------	----	---

y points:

[0.	0.20051827	0.50458006	0.00999999]
-----	------------	------------	-------------

d values:

[0.80002098	0.29129663	-0.25090388]				
361	362	2.4566e-10	7.60e-12	1.18e-04	6.66e-07	

Current map parameters:

x points:

[0.	0.29723689	0.69750817	1.]
-----	------------	------------	----	---

y points:

[0.	0.20051227	0.50452818	0.00999999]
-----	------------	------------	-------------

d values:

[0.8000223	0.2913926	-0.25089689]				
362	363	2.3829e-10	7.38e-12	1.17e-04	6.55e-07	

Current map parameters:

x points:

[0.	0.29726544	0.69753797	1.]
-----	------------	------------	----	---

y points:

[0.	0.20050633	0.50447666	0.00999999]
-----	------------	------------	-------------

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d values:
[ 0.80002355  0.29148802 -0.25088985]
      363      364      2.3113e-10      7.16e-12      1.16e-04      6.45e-07
Current map parameters:
x points:
[0.      0.29727967 0.69755276 1.      ]
y points:
[ 0.      0.20050336  0.50445109 -0.00999999]
d values:
[ 0.80002414  0.29153544 -0.2508863 ]
      364      365      2.2764e-10      3.49e-12      2.00e-02      6.40e-07
Current map parameters:
x points:
[0.      0.29729388 0.69756748 1.      ]
y points:
[0.      0.20050041 0.50442558 0.00999997]
d values:
[ 0.80002473  0.29158272 -0.25088275]
      365      366      2.2421e-10      3.44e-12      2.00e-02      6.35e-07
Current map parameters:
x points:
[0.      0.29732224 0.6975968  1.      ]
y points:
[0.      0.20049454 0.50437477 0.00999999]
d values:
[ 0.80002588  0.291677  -0.25087561]
      366      367      2.1747e-10      6.74e-12      1.15e-04      6.25e-07
Current map parameters:
x points:
[0.      0.29735051 0.69762587 1.      ]
y points:
[0.      0.20048872 0.50432432 0.00999999]
d values:
[ 0.80002694  0.29177071 -0.25086844]
      367      368      2.1093e-10      6.54e-12      1.14e-04      6.16e-07
Current map parameters:
x points:
[0.      0.29737867 0.69765469 1.      ]
y points:
[0.      0.20048294 0.50427423 0.00999999]
d values:
[ 0.80002796  0.2918638  -0.25086124]
      368      369      2.0458e-10      6.34e-12      1.14e-04      6.06e-07
      369      370      1.9843e-10      6.16e-12      1.13e-04      5.97e-07
Current map parameters:
x points:
[0.      0.29743465 0.69771158 1.      ]
y points:

```

```

[0.          0.20047153 0.50417514 0.00999999]
d values:
[ 0.80002985  0.29204823 -0.2508467 ]
      370          371          1.9246e-10          5.97e-12          1.12e-04          5.88e-07
Current map parameters:
x points:
[0.          0.29746249 0.69773966 1.          ]
y points:
[0.          0.20046589 0.50412614 0.00999999]
d values:
[ 0.80003072  0.29213954 -0.25083939]
      371          372          1.8666e-10          5.80e-12          1.11e-04          5.79e-07
Current map parameters:
x points:
[0.          0.29749017 0.6977675  1.          ]
y points:
[0.          0.20046029 0.50407752 0.00999999]
d values:
[ 0.80003154  0.29223023 -0.25083205]
      372          373          1.8104e-10          5.62e-12          1.11e-04          5.70e-07
Current map parameters:
x points:
[0.          0.29750395 0.69778127 1.          ]
y points:
[ 0.          0.20045754 0.50405339 -0.00999999]
d values:
[ 0.80003192  0.29227527 -0.25082837]
      373          374          1.7830e-10          2.74e-12          2.00e-02          5.65e-07
Current map parameters:
x points:
[0.          0.29753145 0.69780872 1.          ]
y points:
[ 0.          0.200452      0.50400533 -0.00999999]
d values:
[ 0.80003268  0.29236504 -0.25082101]
      374          375          1.7292e-10          5.37e-12          1.09e-04          5.57e-07
Current map parameters:
x points:
[0.          0.29754514 0.69782232 1.          ]
y points:
[0.          0.20044926 0.50398147 0.00999997]
d values:
[ 0.80003303  0.2924096  -0.25081731]
      375          376          1.7030e-10          2.62e-12          2.00e-02          5.52e-07
Current map parameters:
x points:
[0.          0.29755878 0.69783586 1.          ]
y points:

```

```

[ 0.          0.20044653  0.50395772 -0.00999999]
d values:
[ 0.80003338  0.29245401 -0.25081362]
      376          377          1.6772e-10          2.58e-12          2.00e-02          5.48e-07
Current map parameters:
x points:
[0.          0.2975724  0.69784934 1.          ]
y points:
[0.          0.20044381 0.50393405 0.00999999]
d values:
[ 0.8000337   0.29249828 -0.25080992]
      377          378          1.6518e-10          2.54e-12          2.00e-02          5.44e-07
Current map parameters:
x points:
[0.          0.29758597 0.69786276 1.          ]
y points:
[ 0.          0.2004411   0.50391049 -0.00999999]
d values:
[ 0.80003402  0.29254235 -0.25080623]
      378          379          1.6268e-10          2.50e-12          2.00e-02          5.39e-07
      379          380          1.5777e-10          4.91e-12          1.07e-04          5.31e-07
Current map parameters:
x points:
[0.          0.29762652 0.6979027  1.          ]
y points:
[0.          0.20043304 0.50384026 0.00999999]
d values:
[ 0.80003494  0.29267383 -0.25079509]
      380          381          1.5538e-10          2.39e-12          2.00e-02          5.27e-07
Current map parameters:
x points:
[0.          0.2976534  0.69792904 1.          ]
y points:
[0.          0.20042773 0.50379387 0.00999999]
d values:
[ 0.8000355   0.29276072 -0.25078766]
      381          382          1.5069e-10          4.69e-12          1.06e-04          5.19e-07
Current map parameters:
x points:
[0.          0.29766674 0.69794211 1.          ]
y points:
[ 0.          0.20042509  0.50377087 -0.00999999]
d values:
[ 0.80003576  0.29280385 -0.25078394]
      382          383          1.4840e-10          2.29e-12          2.00e-02          5.15e-07
Current map parameters:
x points:
[0.          0.29768006 0.69795508 1.          ]

```

```

y points:
[0.          0.20042248 0.50374797 0.00999999]
d values:
[ 0.80003601  0.29284681 -0.25078023]
      383          384          1.4615e-10          2.25e-12          2.00e-02          5.10e-07
Current map parameters:
x points:
[0.          0.29770662 0.69798093 1.          ]
y points:
[0.          0.20041724 0.50370236 0.00999999]
d values:
[ 0.8000365   0.2929324  -0.25077279]
      384          385          1.4173e-10          4.42e-12          1.04e-04          5.03e-07
Current map parameters:
x points:
[0.          0.29773301 0.69800653 1.          ]
y points:
[0.          0.20041205 0.5036571  0.00999998]
d values:
[ 0.80003695  0.29301733 -0.25076535]
      385          386          1.3744e-10          4.29e-12          1.03e-04          4.95e-07
Current map parameters:
x points:
[0.          0.29775925 0.6980319  1.          ]
y points:
[0.          0.20040692 0.50361223 0.00999999]
d values:
[ 0.80003738  0.29310161 -0.25075791]
      386          387          1.3328e-10          4.16e-12          1.03e-04          4.87e-07
Current map parameters:
x points:
[0.          0.29778533 0.69805701 1.          ]
y points:
[0.          0.20040183 0.50356775 0.00999999]
d values:
[ 0.80003775  0.29318523 -0.25075048]
      387          388          1.2925e-10          4.03e-12          1.02e-04          4.80e-07
Current map parameters:
x points:
[0.          0.29781124 0.69808189 1.          ]
y points:
[0.          0.20039679 0.50352365 0.00999999]
d values:
[ 0.8000381   0.29326816 -0.25074306]
      388          389          1.2533e-10          3.91e-12          1.01e-04          4.72e-07
      389          390          1.2343e-10          1.91e-12          2.00e-02          4.69e-07
Current map parameters:
x points:

```

```

[0.          0.29784977 0.69811872 1.          ]
y points:
[ 0.          0.20038932  0.50345827 -0.00999999]
d values:
[ 0.80003856  0.29339122 -0.25073192]
      390          391          1.1969e-10          3.74e-12          9.97e-05          4.61e-07
Current map parameters:
x points:
[0.          0.29787527 0.69814299 1.          ]
y points:
[ 0.          0.20038439  0.50341512 -0.00999999]
d values:
[ 0.80003883  0.29347248 -0.25072451]
      391          392          1.1606e-10          3.63e-12          9.89e-05          4.54e-07
Current map parameters:
x points:
[0.          0.29788791 0.69815502 1.          ]
y points:
[0.          0.20038195 0.50339374 0.00999999]
d values:
[ 0.80003895  0.29351277 -0.25072081]
      392          393          1.1429e-10          1.77e-12          2.00e-02          4.51e-07
Current map parameters:
x points:
[0.          0.29790052 0.69816696 1.          ]
y points:
[ 0.          0.20037954  0.50337246 -0.00999999]
d values:
[ 0.80003907  0.29355289 -0.25071712]
      393          394          1.1255e-10          1.74e-12          2.00e-02          4.47e-07
Current map parameters:
x points:
[0.          0.29791308 0.69817886 1.          ]
y points:
[0.          0.20037711 0.50335129 0.00999999]
d values:
[ 0.80003918  0.29359284 -0.25071343]
      394          395          1.1083e-10          1.72e-12          2.00e-02          4.44e-07
Current map parameters:
x points:
[0.          0.2979256  0.69819069 1.          ]
y points:
[ 0.          0.2003747   0.50333018 -0.00999998]
d values:
[ 0.80003928  0.29363262 -0.25070974]
      395          396          1.0914e-10          1.69e-12          2.00e-02          4.40e-07
Current map parameters:
x points:

```

```

[0.          0.29795055 0.69821425 1.          ]
y points:
[ 0.          0.20036991  0.50328819 -0.00999999]
d values:
[ 0.80003949  0.29371183 -0.25070238]
      396          397          1.0583e-10          3.31e-12          9.64e-05          4.33e-07
Current map parameters:
x points:
[0.          0.29796294 0.6982259  1.          ]
y points:
[0.          0.20036754 0.50326738 0.00999999]
d values:
[ 0.80003955  0.29375112 -0.2506987 ]
      397          398          1.0421e-10          1.62e-12          2.00e-02          4.30e-07
Current map parameters:
x points:
[0.          0.29798761 0.6982491  1.          ]
y points:
[0.          0.20036282 0.50322596 0.00999999]
d values:
[ 0.80003971  0.29382929 -0.25069138]
      398          399          1.0104e-10          3.17e-12          9.51e-05          4.23e-07
      399          400          9.7971e-11          3.07e-12          9.43e-05          4.17e-07
Current map parameters:
x points:
[0.          0.29802426 0.69828342 1.          ]
y points:
[ 0.          0.20035583  0.5031646  -0.00999999]
d values:
[ 0.80003989  0.29394521 -0.2506804 ]
      400          401          9.6474e-11          1.50e-12          2.00e-02          4.13e-07
Current map parameters:
x points:
[0.          0.29804849 0.69830603 1.          ]
y points:
[ 0.          0.20035123  0.50312414 -0.00999999]
d values:
[ 0.80003998  0.29402168 -0.25067312]
      401          402          9.3538e-11          2.94e-12          9.30e-05          4.07e-07
Current map parameters:
x points:
[0.          0.29806049 0.69831723 1.          ]
y points:
[0.          0.20034895 0.50310411 0.00999999]
d values:
[ 0.80004002  0.29405958 -0.2506695 ]
      402          403          9.2108e-11          1.43e-12          2.00e-02          4.04e-07
Current map parameters:

```



```

x points:
[0.      0.29808441 0.69833947 1.      ]
y points:
[0.      0.20034442 0.50306422 0.00999999]
d values:
[ 0.80004008  0.29413502 -0.25066225]
      403      404      8.9302e-11      2.81e-12      9.18e-05      3.97e-07
Current map parameters:
x points:
[0.      0.29810815 0.6983615  1.      ]
y points:
[0.      0.20033992 0.50302473 0.00999999]
d values:
[ 0.80004012  0.29420977 -0.25065504]
      404      405      8.6581e-11      2.72e-12      9.09e-05      3.91e-07
Current map parameters:
x points:
[0.      0.29811993 0.69837239 1.      ]
y points:
[ 0.      0.20033769  0.50300515 -0.00999998]
d values:
[ 0.80004013  0.2942468  -0.25065144]
      405      406      8.5255e-11      1.33e-12      2.00e-02      3.88e-07
Current map parameters:
x points:
[0.      0.29814338 0.69839407 1.      ]
y points:
[ 0.      0.20033327  0.50296622 -0.00999999]
d values:
[ 0.80004016  0.29432052 -0.25064427]
      406      407      8.2655e-11      2.60e-12      8.97e-05      3.82e-07
Current map parameters:
x points:
[0.      0.298155   0.69840479 1.      ]
y points:
[0.      0.20033108 0.50294695 0.00999999]
d values:
[ 0.80004014  0.29435705 -0.2506407  ]
      407      408      8.1388e-11      1.27e-12      2.00e-02      3.79e-07
Current map parameters:
x points:
[0.      0.29817816 0.69842613 1.      ]
y points:
[0.      0.20032672 0.50290858 0.00999999]
d values:
[ 0.80004012  0.29442972 -0.25063359]
      408      409      7.8904e-11      2.48e-12      8.84e-05      3.73e-07
      409      410      7.6494e-11      2.41e-12      8.76e-05      3.67e-07

```

Current map parameters:

x points:

[0. 0.29821251 0.69845767 1.]

y points:

[0. 0.20032028 0.5028518 -0.00999999]

d values:

[0.80004006 0.29453736 -0.25062295]

410 411 7.5320e-11 1.17e-12 2.00e-02 3.65e-07

Current map parameters:

x points:

[0. 0.29823519 0.69847843 1.]

y points:

[0. 0.20031603 0.50281439 -0.00999999]

d values:

[0.80004 0.29460832 -0.25061591]

411 412 7.3018e-11 2.30e-12 8.63e-05 3.59e-07

Current map parameters:

x points:

[0. 0.29825764 0.69849898 1.]

y points:

[0. 0.20031183 0.50277735 -0.00999999]

d values:

[0.80003993 0.29467859 -0.2506089]

412 413 7.0785e-11 2.23e-12 8.55e-05 3.53e-07

Current map parameters:

x points:

[0. 0.29827991 0.69851928 1.]

y points:

[0. 0.20030769 0.50274069 -0.00999999]

d values:

[0.80003984 0.29474817 -0.25060193]

413 414 6.8619e-11 2.17e-12 8.46e-05 3.48e-07

Current map parameters:

x points:

[0. 0.29830198 0.69853937 1.]

y points:

[0. 0.20030356 0.50270442 -0.00999999]

d values:

[0.80003973 0.29481707 -0.250595]

414 415 6.6518e-11 2.10e-12 8.38e-05 3.42e-07

Current map parameters:

x points:

[0. 0.29831292 0.6985493 1.]

y points:

[0. 0.20030153 0.50268645 0.00999998]

d values:

[0.80003967 0.29485117 -0.25059156]

415 416 6.5495e-11 1.02e-12 2.00e-02 3.40e-07

Current map parameters:

x points:

[0. 0.29833469 0.69856906 1.]

y points:

[0. 0.20029748 0.50265072 0.00999999]

d values:

[0.80003956 0.29491903 -0.25058468]

416 417 6.3488e-11 2.01e-12 8.25e-05 3.34e-07

Current map parameters:

x points:

[0. 0.29834548 0.69857883 1.]

y points:

[0. 0.20029548 0.50263304 -0.00999999]

d values:

[0.80003948 0.29495264 -0.25058127]

417 418 6.2511e-11 9.78e-13 2.00e-02 3.32e-07

Current map parameters:

x points:

[0. 0.29835621 0.69858854 1.]

y points:

[0. 0.20029349 0.50261546 0.00999999]

d values:

[0.8000394 0.29498604 -0.25057788]

418 419 6.1548e-11 9.63e-13 2.00e-02 3.29e-07

419 420 6.0600e-11 9.48e-13 2.00e-02 3.27e-07

Current map parameters:

x points:

[0. 0.29838816 0.69861741 1.]

y points:

[0. 0.20028757 0.50256317 -0.00999999]

d values:

[0.80003917 0.29508545 -0.2505677]

420 421 5.8740e-11 1.86e-12 8.04e-05 3.21e-07

Current map parameters:

x points:

[0. 0.29839871 0.6986269 1.]

y points:

[0. 0.20028562 0.50254595 0.00999999]

d values:

[0.80003909 0.29511819 -0.25056433]

421 422 5.7835e-11 9.06e-13 2.00e-02 3.19e-07

Current map parameters:

x points:

[0. 0.29841966 0.6986458 1.]

y points:

[0. 0.20028175 0.50251171 0.00999999]

d values:

[0.80003892 0.29518333 -0.25055763]

422	423	5.6059e-11	1.78e-12	7.92e-05	3.14e-07
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Current map parameters:

x points:

[0. 0.29843004 0.69865512 1.]

y points:

[0. 0.20027985 0.50249477 -0.00999999]

d values:

[0.80003882 0.29521556 -0.2505543]

423	424	5.5194e-11	8.65e-13	2.00e-02	3.11e-07
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Current map parameters:

x points:

[0. 0.2984507 0.69867368 1.]

y points:

[0. 0.20027602 0.50246109 -0.00999999]

d values:

[0.80003864 0.29527968 -0.25054766]

424	425	5.3497e-11	1.70e-12	7.80e-05	3.07e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29846093 0.69868286 1.]

y points:

[0. 0.20027414 0.5024444 0.00999998]

d values:

[0.80003854 0.29531141 -0.25054437]

425	426	5.2671e-11	8.26e-13	2.00e-02	3.04e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29847111 0.69869198 1.]

y points:

[0. 0.20027226 0.50242783 -0.00999999]

d values:

[0.80003845 0.29534296 -0.25054108]

426	427	5.1857e-11	8.14e-13	2.00e-02	3.02e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29848124 0.69870105 1.]

y points:

[0. 0.2002704 0.50241134 0.00999999]

d values:

[0.80003833 0.29537437 -0.25053781]

427	428	5.1056e-11	8.01e-13	2.00e-02	2.99e-07
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Current map parameters:

x points:

[0. 0.29849132 0.69871007 1.]

y points:

[0. 0.20026855 0.50239495 -0.00999999]

d values:

[0.80003823 0.29540557 -0.25053456]

428	429	5.0267e-11	7.89e-13	2.00e-02	2.97e-07
429	430	4.9490e-11	7.77e-13	2.00e-02	2.95e-07

Current map parameters:

x points:

[0. 0.2985213 0.69873685 1.]

y points:

[0. 0.20026304 0.50234621 0.00999999]

d values:

[0.8000379 0.2954984 -0.25052482]

430	431	4.7966e-11	1.52e-12	7.51e-05	2.90e-07
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Current map parameters:

x points:

[0. 0.29853119 0.69874566 1.]

y points:

[0. 0.20026123 0.50233018 -0.00999999]

d values:

[0.80003778 0.29552896 -0.2505216]

431	432	4.7224e-11	7.42e-13	2.00e-02	2.88e-07
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Current map parameters:

x points:

[0. 0.298541 0.69875443 1.]

y points:

[0. 0.20025943 0.50231423 0.00999999]

d values:

[0.80003767 0.29555934 -0.2505184]

432	433	4.6493e-11	7.31e-13	2.00e-02	2.85e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.29855078 0.69876312 1.]

y points:

[0. 0.20025765 0.50229837 -0.00999999]

d values:

[0.80003755 0.29558957 -0.25051521]

433	434	4.5773e-11	7.20e-13	2.00e-02	2.83e-07
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Current map parameters:

x points:

[0. 0.2985605 0.69877177 1.]

y points:

[0. 0.20025586 0.50228262 0.00999999]

d values:

[0.80003743 0.29561963 -0.25051203]

434	435	4.5064e-11	7.09e-13	2.00e-02	2.81e-07
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Current map parameters:

x points:

[0. 0.29857985 0.69878898 1.]

y points:

[0. 0.20025232 0.50225124 0.00999998]

d values:

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[ 0.80003719  0.29567941 -0.2505057 ]
      435      436      4.3674e-11      1.39e-12      7.27e-05      2.76e-07
Current map parameters:
x points:
[0.      0.29858943 0.69879748 1.      ]
y points:
[ 0.      0.20025057  0.50223573 -0.00999999]
d values:
[ 0.80003708  0.29570898 -0.25050256]
      436      437      4.2997e-11      6.77e-13      2.00e-02      2.74e-07
Current map parameters:
x points:
[0.      0.29860847 0.69881438 1.      ]
y points:
[ 0.      0.20024709  0.5022049  -0.00999999]
d values:
[ 0.80003681  0.29576779 -0.2504963 ]
      437      438      4.1670e-11      1.33e-12      7.15e-05      2.70e-07
Current map parameters:
x points:
[0.      0.2986179  0.69882273 1.      ]
y points:
[0.      0.20024537 0.50218966 0.00999999]
d values:
[ 0.80003668  0.29579685 -0.25049321]
      438      439      4.1023e-11      6.46e-13      2.00e-02      2.68e-07
      439      440      3.9756e-11      1.27e-12      7.03e-05      2.64e-07
Current map parameters:
x points:
[0.      0.29864592 0.69884752 1.      ]
y points:
[ 0.      0.20024026  0.50214437 -0.00999999]
d values:
[ 0.80003629  0.29588326 -0.25048394]
      440      441      3.9139e-11      6.17e-13      2.00e-02      2.62e-07
Current map parameters:
x points:
[0.      0.29865516 0.69885567 1.      ]
y points:
[0.      0.20023858 0.50212947 0.00999999]
d values:
[ 0.80003615  0.29591169 -0.25048089]
      441      442      3.8531e-11      6.08e-13      2.00e-02      2.59e-07
Current map parameters:
x points:
[0.      0.29866432 0.69886379 1.      ]
y points:
[ 0.      0.20023691  0.50211466 -0.00999999]

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d values:
[ 0.80003602  0.29593996 -0.25047785]
      442      443      3.7933e-11      5.98e-13      2.00e-02      2.57e-07
Current map parameters:
x points:
[0.      0.29868257 0.69887988 1.      ]
y points:
[ 0.      0.20023361  0.50208521 -0.00999999]
d values:
[ 0.80003574  0.29599617 -0.25047179]
      443      444      3.6759e-11      1.17e-12      6.83e-05      2.53e-07
Current map parameters:
x points:
[0.      0.29870062 0.69889578 1.      ]
y points:
[ 0.      0.20023031  0.50205612 -0.00999999]
d values:
[ 0.80003546  0.29605174 -0.25046579]
      444      445      3.5621e-11      1.14e-12      6.75e-05      2.49e-07
Current map parameters:
x points:
[0.      0.29871848 0.6989115  1.      ]
y points:
[ 0.      0.20022707  0.50202734 -0.00999998]
d values:
[ 0.80003518  0.29610667 -0.25045983]
      445      446      3.4518e-11      1.10e-12      6.68e-05      2.45e-07
Current map parameters:
x points:
[0.      0.2987273  0.69891926 1.      ]
y points:
[0.      0.20022547 0.50201313 0.01      ]
d values:
[ 0.80003505  0.29613382 -0.25045688]
      446      447      3.3981e-11      5.37e-13      2.00e-02      2.44e-07
Current map parameters:
x points:
[0.      0.29874486 0.69893468 1.      ]
y points:
[0.      0.20022229 0.50198486 0.01      ]
d values:
[ 0.80003474  0.29618782 -0.25045101]
      447      448      3.2928e-11      1.05e-12      6.56e-05      2.40e-07
Current map parameters:
x points:
[0.      0.29875355 0.6989423  1.      ]
y points:
[ 0.      0.20022071  0.5019709  -0.01      ]

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d values:
[ 0.8000346  0.29621449 -0.25044811]
      448      449      3.2415e-11      5.13e-13      2.00e-02      2.38e-07
      449      450      3.1409e-11      1.01e-12      6.45e-05      2.34e-07
Current map parameters:
x points:
[0.      0.29878789 0.69897239 1.      ]
y points:
[ 0.      0.2002145  0.50191571 -0.01      ]
d values:
[ 0.800034  0.29631996 -0.25043656]
      450      451      3.0435e-11      9.75e-13      6.37e-05      2.30e-07
Current map parameters:
x points:
[0.      0.29880478 0.69898716 1.      ]
y points:
[ 0.      0.20021145 0.5018886  -0.01      ]
d values:
[ 0.8000337  0.29637177 -0.25043087]
      451      452      2.9489e-11      9.45e-13      6.30e-05      2.27e-07
Current map parameters:
x points:
[0.      0.29881311 0.69899446 1.      ]
y points:
[0.      0.20020994 0.50187522 0.01      ]
d values:
[ 0.80003355 0.29639737 -0.25042805]
      452      453      2.9029e-11      4.60e-13      2.00e-02      2.25e-07
Current map parameters:
x points:
[0.      0.29882141 0.69900169 1.      ]
y points:
[ 0.      0.20020846 0.50186191 -0.01      ]
d values:
[ 0.80003339 0.29642281 -0.25042524]
      453      454      2.8576e-11      4.53e-13      2.00e-02      2.23e-07
Current map parameters:
x points:
[0.      0.29882966 0.69900889 1.      ]
y points:
[0.      0.20020696 0.5018487  0.01      ]
d values:
[ 0.80003324 0.29644811 -0.25042245]
      454      455      2.8130e-11      4.46e-13      2.00e-02      2.21e-07
Current map parameters:
x points:
[0.      0.29883786 0.69901605 1.      ]
y points:

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[ 0.          0.20020548  0.50183553 -0.00999998]
d values:
[ 0.80003309  0.29647325 -0.25041967]
      455          456          2.7691e-11          4.39e-13          2.00e-02          2.20e-07
Current map parameters:
x points:
[0.          0.29884601 0.69902315 1.          ]
y points:
[0.          0.20020401 0.50182247 0.01          ]
d values:
[ 0.80003295  0.29649824 -0.25041691]
      456          457          2.7258e-11          4.33e-13          2.00e-02          2.18e-07
Current map parameters:
x points:
[0.          0.29885412 0.69903022 1.          ]
y points:
[ 0.          0.20020255  0.50180948 -0.01          ]
d values:
[ 0.80003278  0.29652309 -0.25041415]
      457          458          2.6833e-11          4.26e-13          2.00e-02          2.16e-07
Current map parameters:
x points:
[0.          0.29887023 0.69904426 1.          ]
y points:
[ 0.          0.20019964  0.50178366 -0.01          ]
d values:
[ 0.80003247  0.29657246 -0.25040869]
      458          459          2.5998e-11          8.35e-13          6.00e-05          2.13e-07
      459          460          2.5188e-11          8.09e-13          5.93e-05          2.09e-07
Current map parameters:
x points:
[0.          0.29889403 0.69906496 1.          ]
y points:
[0.          0.20019536 0.50174557 0.01          ]
d values:
[ 0.800032   0.29664535 -0.25040057]
      460          461          2.4794e-11          3.94e-13          2.00e-02          2.08e-07
Current map parameters:
x points:
[0.          0.29890187 0.69907175 1.          ]
y points:
[ 0.          0.20019395  0.50173306 -0.01          ]
d values:
[ 0.80003184  0.29666929 -0.25039789]
      461          462          2.4406e-11          3.88e-13          2.00e-02          2.06e-07
Current map parameters:
x points:
[0.          0.29891741 0.69908528 1.          ]

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y points:
[ 0.          0.20019116  0.50170818 -0.01          ]
d values:
[ 0.80003152  0.2967169  -0.25039258]
      462          463          2.3646e-11          7.61e-13          5.78e-05          2.03e-07
Current map parameters:
x points:
[0.          0.2989251  0.69909193  1.          ]
y points:
[0.          0.20018979 0.5016959  0.01          ]
d values:
[ 0.80003137  0.29674041 -0.25038994]
      463          464          2.3275e-11          3.70e-13          2.00e-02          2.01e-07
Current map parameters:
x points:
[0.          0.29893273 0.69909855  1.          ]
y points:
[ 0.          0.2001884  0.50168371 -0.01          ]
d values:
[ 0.80003121  0.29676378 -0.25038733]
      464          465          2.2911e-11          3.65e-13          2.00e-02          2.00e-07
Current map parameters:
x points:
[0.          0.29894792 0.69911172  1.          ]
y points:
[ 0.          0.20018568  0.50165943 -0.00999998]
d values:
[ 0.80003089  0.29681022 -0.25038212]
      465          466          2.2196e-11          7.15e-13          5.64e-05          1.96e-07
Current map parameters:
x points:
[0.          0.29895542 0.69911821  1.          ]
y points:
[0.          0.20018433 0.50164745  0.01          ]
d values:
[ 0.80003075  0.29683316 -0.25037954]
      466          467          2.1848e-11          3.48e-13          2.00e-02          1.95e-07
Current map parameters:
x points:
[0.          0.29897034 0.69913112  1.          ]
y points:
[0.          0.20018166 0.50162365  0.01          ]
d values:
[ 0.80003041  0.29687876 -0.25037441]
      467          468          2.1166e-11          6.82e-13          5.54e-05          1.92e-07
Current map parameters:
x points:
[0.          0.2989777  0.69913749  1.          ]

```

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y points:
[ 0.          0.20018034  0.50161189 -0.01          ]
d values:
[ 0.80003025  0.29690125 -0.25037188]
      468          469          2.0834e-11          3.32e-13          2.00e-02          1.90e-07
      469          470          2.0183e-11          6.51e-13          5.43e-05          1.87e-07
Current map parameters:
x points:
[0.          0.29899958 0.69915639 1.          ]
y points:
[0.          0.20017642 0.50157701 0.01          ]
d values:
[ 0.80002978  0.29696807 -0.25036432]
      470          471          1.9866e-11          3.17e-13          2.00e-02          1.86e-07
Current map parameters:
x points:
[0.          0.29901397 0.6991688  1.          ]
y points:
[0.          0.20017385 0.50155409 0.01          ]
d values:
[ 0.80002946  0.29701197 -0.25035935]
      471          472          1.9245e-11          6.21e-13          5.33e-05          1.83e-07
Current map parameters:
x points:
[0.          0.29902815 0.69918107 1.          ]
y points:
[0.          0.20017131 0.50153147 0.01          ]
d values:
[ 0.80002914  0.29705531 -0.25035443]
      472          473          1.8643e-11          6.02e-13          5.27e-05          1.80e-07
Current map parameters:
x points:
[0.          0.29903516 0.69918709 1.          ]
y points:
[ 0.          0.20017007  0.50152031 -0.01          ]
d values:
[ 0.80002898  0.29707671 -0.250352  ]
      473          474          1.8350e-11          2.93e-13          2.00e-02          1.78e-07
Current map parameters:
x points:
[0.          0.29904213 0.6991931  1.          ]
y points:
[0.          0.20016881 0.50150923 0.01          ]
d values:
[ 0.80002882  0.29709796 -0.25034958]
      474          475          1.8062e-11          2.88e-13          2.00e-02          1.77e-07
Current map parameters:
x points:

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[0.          0.29904905 0.69919906 1.          ]
y points:
[ 0.          0.20016757  0.50149819 -0.00999998]
d values:
[ 0.80002866  0.29711909 -0.25034718]
      475          476          1.7778e-11          2.84e-13          2.00e-02          1.76e-07
Current map parameters:
x points:
[0.          0.29905593 0.69920498 1.          ]
y points:
[0.          0.20016634 0.50148724 0.01          ]
d values:
[ 0.80002852  0.29714008 -0.25034479]
      476          477          1.7498e-11          2.80e-13          2.00e-02          1.74e-07
Current map parameters:
x points:
[0.          0.29906277 0.69921087 1.          ]
y points:
[ 0.          0.20016512  0.50147636 -0.01          ]
d values:
[ 0.80002834  0.29716095 -0.25034241]
      477          478          1.7223e-11          2.75e-13          2.00e-02          1.73e-07
Current map parameters:
x points:
[0.          0.29906956 0.69921671 1.          ]
y points:
[0.          0.20016391 0.50146555 0.01          ]
d values:
[ 0.80002819  0.29718165 -0.25034006]
      478          479          1.6952e-11          2.71e-13          2.00e-02          1.71e-07
      479          480          1.6421e-11          5.31e-13          5.00e-05          1.69e-07
Current map parameters:
x points:
[0.          0.29908973 0.69923405 1.          ]
y points:
[ 0.          0.20016031  0.50143346 -0.01          ]
d values:
[ 0.80002771  0.29724315 -0.25033301]
      480          481          1.6162e-11          2.59e-13          2.00e-02          1.67e-07
Current map parameters:
x points:
[0.          0.29909637 0.69923974 1.          ]
y points:
[0.          0.20015913 0.50142293 0.01          ]
d values:
[ 0.80002755  0.29726334 -0.25033069]
      481          482          1.5908e-11          2.55e-13          2.00e-02          1.66e-07
Current map parameters:

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x points:
[0.      0.29910952 0.69925106 1.      ]
y points:
[0.      0.20015678 0.50140201 0.01     ]
d values:
[ 0.80002724  0.29730347 -0.25032609]
      482      483      1.5409e-11      4.99e-13      4.87e-05      1.63e-07
Current map parameters:
x points:
[0.      0.29911602 0.69925662 1.      ]
y points:
[ 0.      0.20015564  0.50139168 -0.01     ]
d values:
[ 0.80002708  0.29732327 -0.25032382]
      483      484      1.5166e-11      2.43e-13      2.00e-02      1.62e-07
Current map parameters:
x points:
[0.      0.29912248 0.69926216 1.      ]
y points:
[0.      0.20015447 0.50138144 0.01     ]
d values:
[ 0.80002692  0.29734294 -0.25032156]
      484      485      1.4927e-11      2.39e-13      2.00e-02      1.61e-07
Current map parameters:
x points:
[0.      0.29913531 0.69927316 1.      ]
y points:
[0.      0.20015218 0.50136104 0.00999998]
d values:
[ 0.80002661  0.29738202 -0.25031706]
      485      486      1.4458e-11      4.69e-13      4.75e-05      1.58e-07
Current map parameters:
x points:
[0.      0.29914164 0.69927858 1.      ]
y points:
[ 0.      0.20015106  0.50135099 -0.01     ]
d values:
[ 0.80002647  0.29740131 -0.25031484]
      486      487      1.4230e-11      2.28e-13      2.00e-02      1.57e-07
Current map parameters:
x points:
[0.      0.29914793 0.69928397 1.      ]
y points:
[0.      0.20014994 0.501341    0.01     ]
d values:
[ 0.8000263   0.29742048 -0.25031262]
      487      488      1.4006e-11      2.25e-13      2.00e-02      1.56e-07
Current map parameters:

```

```

x points:
[0.      0.29916044 0.69929468 1.      ]
y points:
[0.      0.20014771 0.50132115 0.01    ]
d values:
[ 0.80002599  0.29745854 -0.25030824]
      488      489      1.3566e-11      4.40e-13      4.62e-05      1.53e-07
      489      490      1.3139e-11      4.26e-13      4.56e-05      1.51e-07
Current map parameters:
x points:
[0.      0.29917887 0.69931045 1.      ]
y points:
[ 0.      0.20014443  0.50129191 -0.01    ]
d values:
[ 0.80002553  0.29751464 -0.25030174]
      490      491      1.2932e-11      2.08e-13      2.00e-02      1.50e-07
Current map parameters:
x points:
[0.      0.29919099 0.69932079 1.      ]
y points:
[ 0.      0.20014228  0.50127271 -0.01    ]
d values:
[ 0.80002522  0.29755147 -0.25029747]
      491      492      1.2525e-11      4.07e-13      4.47e-05      1.47e-07
Current map parameters:
x points:
[0.      0.29919694 0.69932591 1.      ]
y points:
[0.      0.20014122 0.50126325 0.01    ]
d values:
[ 0.80002507  0.29756963 -0.25029536]
      492      493      1.2327e-11      1.98e-13      2.00e-02      1.46e-07
Current map parameters:
x points:
[0.      0.29920288 0.69933096 1.      ]
y points:
[ 0.      0.20014018  0.50125384 -0.01    ]
d values:
[ 0.80002491  0.29758768 -0.25029326]
      493      494      1.2132e-11      1.95e-13      2.00e-02      1.45e-07
Current map parameters:
x points:
[0.      0.29920877 0.69933599 1.      ]
y points:
[0.      0.20013912 0.50124451 0.01    ]
d values:
[ 0.80002476  0.29760561 -0.25029118]
      494      495      1.1940e-11      1.92e-13      2.00e-02      1.44e-07

```

Current map parameters:

x points:

[0. 0.29921462 0.69934099 1.]

y points:

[0. 0.20013808 0.50123522 -0.00999998]

d values:

[0.80002461 0.29762341 -0.25028911]

495 496 1.1751e-11 1.89e-13 2.00e-02 1.43e-07

Current map parameters:

x points:

[0. 0.29922626 0.69935092 1.]

y points:

[0. 0.20013601 0.50121679 -0.01]

d values:

[0.80002432 0.29765879 -0.25028499]

496 497 1.1381e-11 3.70e-13 4.30e-05 1.40e-07

Current map parameters:

x points:

[0. 0.299232 0.69935581 1.]

y points:

[0. 0.20013499 0.5012077 0.01]

d values:

[0.80002416 0.29767625 -0.25028296]

497 498 1.1201e-11 1.80e-13 2.00e-02 1.39e-07

Current map parameters:

x points:

[0. 0.2992434 0.69936553 1.]

y points:

[0. 0.20013297 0.50118964 0.01]

d values:

[0.80002386 0.2977109 -0.25027893]

498 499 1.0848e-11 3.53e-13 4.21e-05 1.37e-07

499 500 1.0676e-11 1.72e-13 2.00e-02 1.36e-07

Current map parameters:

x points:

[0. 0.2992602 0.69937984 1.]

y points:

[0. 0.20012999 0.50116304 -0.01]

d values:

[0.80002341 0.29776197 -0.25027294]

500 501 1.0340e-11 3.37e-13 4.13e-05 1.34e-07

Current map parameters:

x points:

[0. 0.29926573 0.69938454 1.]

y points:

[0. 0.20012901 0.50115431 0.01]

d values:

[0.80002327 0.29777872 -0.25027098]

501	502	1.0176e-11	1.64e-13	2.00e-02	1.33e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29927666	0.69939387	1.]
-----	------------	------------	----	---

y points:

[0.	0.20012707	0.50113698	0.01]
-----	------------	------------	------	---

d values:

[0.80002297	0.297812	-0.25026708]
--------------	----------	--------------

502	503	9.8547e-12	3.21e-13	4.04e-05	1.30e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29928207	0.69939845	1.]
-----	------------	------------	----	---

y points:

[0.	0.20012613	0.50112843	-0.01]
------	------------	------------	-------	---

d values:

[0.80002283	0.29782841	-0.25026516]
--------------	------------	--------------

503	504	9.6984e-12	1.56e-13	2.00e-02	1.29e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29928743	0.69940302	1.]
-----	------------	------------	----	---

y points:

[0.	0.20012516	0.50111996	0.01]
-----	------------	------------	------	---

d values:

[0.80002268	0.29784471	-0.25026324]
--------------	------------	--------------

504	505	9.5447e-12	1.54e-13	2.00e-02	1.28e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29929809	0.69941208	1.]
-----	------------	------------	----	---

y points:

[0.	0.20012327	0.50110308	0.00999998]
-----	------------	------------	-------------

d values:

[0.80002239	0.29787709	-0.25025944]
--------------	------------	--------------

505	506	9.2432e-12	3.01e-13	3.93e-05	1.26e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29930861	0.69942102	1.]
-----	------------	------------	----	---

y points:

[0.	0.20012141	0.50108645	0.01]
-----	------------	------------	------	---

d values:

[0.80002212	0.29790902	-0.25025568]
--------------	------------	--------------

506	507	8.9512e-12	2.92e-13	3.88e-05	1.24e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29931898	0.69942983	1.]
-----	------------	------------	----	---

y points:

[0.	0.20011958	0.50107006	0.01]
-----	------------	------------	------	---

d values:

[0.80002182	0.29794053	-0.25025197]
--------------	------------	--------------

507	508	8.6683e-12	2.83e-13	3.83e-05	1.22e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29932921	0.69943851	1.]
-----	------------	------------	----	---

y points:

[0.	0.20011777	0.50105388	0.01]
-----	------------	------------	------	---

d values:

[0.80002154	0.29797158	-0.25024833]
--------------	------------	--------------

508	509	8.3942e-12	2.74e-13	3.77e-05	1.20e-07
509	510	8.2609e-12	1.33e-13	2.00e-02	1.19e-07

Current map parameters:

x points:

[0.	0.29934428	0.6994513	1.]
-----	------------	-----------	----	---

y points:

[0.	0.2001151	0.50103007	-0.01]
------	-----------	------------	-------	---

d values:

[0.80002112	0.29801732	-0.25024291]
--------------	------------	--------------

510	511	7.9995e-12	2.61e-13	3.69e-05	1.18e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29934924	0.69945549	1.]
-----	------------	------------	----	---

y points:

[0.	0.20011423	0.50102226	0.01]
-----	------------	------------	------	---

d values:

[0.80002098	0.29803232	-0.25024114]
--------------	------------	--------------

511	512	7.8724e-12	1.27e-13	2.00e-02	1.17e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29935904	0.69946382	1.]
-----	------------	------------	----	---

y points:

[0.	0.20011249	0.50100676	0.01]
-----	------------	------------	------	---

d values:

[0.80002071	0.29806211	-0.25023761]
--------------	------------	--------------

512	513	7.6232e-12	2.49e-13	3.62e-05	1.15e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29936872	0.69947201	1.]
-----	------------	------------	----	---

y points:

[0.	0.20011079	0.50099147	0.01]
-----	------------	------------	------	---

d values:

[0.80002043	0.29809148	-0.25023413]
--------------	------------	--------------

513	514	7.3818e-12	2.41e-13	3.57e-05	1.13e-07
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.2993735	0.69947606	1.]
-----	-----------	------------	----	---

y points:

[0.	0.20010993	0.50098395	-0.01]
------	------------	------------	-------	---

d values:

[0.8000203	0.29810597	-0.25023241]				
514	515	7.2644e-12	1.17e-13	2.00e-02	1.12e-07	

Current map parameters:

x points:

[0. 0.29938298 0.69948408 1.]

y points:

[0. 0.20010826 0.50096896 -0.00999998]

d values:

[0.80002003	0.29813473	-0.250229]				
515	516	7.0343e-12	2.30e-13	3.49e-05	1.10e-07	

Current map parameters:

x points:

[0. 0.29939233 0.699492 1.]

y points:

[0. 0.20010661 0.5009542 -0.01]

d values:

[0.80001978	0.29816309	-0.25022563]				
516	517	6.8113e-12	2.23e-13	3.44e-05	1.08e-07	

Current map parameters:

x points:

[0. 0.29939694 0.6994959 1.]

y points:

[0. 0.20010579 0.50094693 0.01]

d values:

[0.80001963	0.29817709	-0.25022397]				
517	518	6.7029e-12	1.08e-13	2.00e-02	1.08e-07	

Current map parameters:

x points:

[0. 0.29940152 0.69949977 1.]

y points:

[0. 0.20010499 0.5009397 -0.01]

d values:

[0.8000195	0.29819095	-0.25022233]				
518	519	6.5961e-12	1.07e-13	2.00e-02	1.07e-07	
519	520	6.4911e-12	1.05e-13	2.00e-02	1.06e-07	

Current map parameters:

x points:

[0. 0.29941509 0.69951125 1.]

y points:

[0. 0.20010259 0.50091829 0.01]

d values:

[0.80001911	0.29823211	-0.25021741]				
520	521	6.2852e-12	2.06e-13	3.32e-05	1.04e-07	

Current map parameters:

x points:

[0. 0.29941956 0.69951501 1.]

y points:

[0. 0.2001018 0.50091127 -0.01]

d values:
[0.80001898 0.29824561 -0.2502158]
521 522 6.1850e-12 1.00e-13 2.00e-02 1.03e-07
Current map parameters:
x points:
[0. 0.29942838 0.69952249 1.]
y points:
[0. 0.20010024 0.50089733 -0.01]
d values:
[0.80001872 0.2982724 -0.25021261]
522 523 5.9887e-12 1.96e-13 3.25e-05 1.02e-07
Current map parameters:
x points:
[0. 0.29943274 0.69952616 1.]
y points:
[0. 0.20009949 0.50089046 0.01]
d values:
[0.80001859 0.29828561 -0.25021103]
523 524 5.8933e-12 9.55e-14 2.00e-02 1.01e-07
Current map parameters:
x points:
[0. 0.29943707 0.69952981 1.]
y points:
[0. 0.20009871 0.50088365 -0.01]
d values:
[0.80001846 0.29829872 -0.25020946]
524 525 5.7993e-12 9.40e-14 2.00e-02 1.00e-07
Current map parameters:
x points:
[0. 0.29944566 0.69953707 1.]
y points:
[0. 0.2000972 0.50087009 -0.00999998]
d values:
[0.80001821 0.29832476 -0.25020635]
525 526 5.6151e-12 1.84e-13 3.16e-05 9.84e-08
Current map parameters:
x points:
[0. 0.2994499 0.69954064 1.]
y points:
[0. 0.20009645 0.50086341 0.01]
d values:
[0.8000181 0.2983376 -0.25020482]
526 527 5.5255e-12 8.96e-14 2.00e-02 9.76e-08
Current map parameters:
x points:
[0. 0.2994541 0.69954419 1.]
y points:
[0. 0.20009571 0.50085678 -0.01]

```

d values:
[ 0.80001796  0.29835036 -0.25020329]
      527      528      5.4374e-12      8.82e-14      2.00e-02      9.68e-08
Current map parameters:
x points:
[0.      0.29946245 0.69955124 1.      ]
y points:
[ 0.      0.20009424 0.50084362 -0.01      ]
d values:
[ 0.80001772  0.29837565 -0.25020027]
      528      529      5.2646e-12      1.73e-13      3.07e-05      9.52e-08
      529      530      5.1805e-12      8.40e-14      2.00e-02      9.45e-08
Current map parameters:
x points:
[0.      0.29947474 0.6995616 1.      ]
y points:
[0.      0.20009207 0.50082425 0.01      ]
d values:
[ 0.80001735  0.29841288 -0.25019579]
      530      531      5.0158e-12      1.65e-13      3.01e-05      9.30e-08
Current map parameters:
x points:
[0.      0.29947879 0.699565 1.      ]
y points:
[ 0.      0.20009136 0.50081791 -0.01      ]
d values:
[ 0.80001723  0.29842509 -0.25019433]
      531      532      4.9357e-12      8.01e-14      2.00e-02      9.22e-08
Current map parameters:
x points:
[0.      0.29948277 0.69956838 1.      ]
y points:
[0.      0.20009066 0.5008116 0.01      ]
d values:
[ 0.80001711  0.2984372 -0.25019287]
      532      533      4.8569e-12      7.88e-14      2.00e-02      9.15e-08
Current map parameters:
x points:
[0.      0.29948674 0.69957172 1.      ]
y points:
[ 0.      0.20008997 0.50080535 -0.01      ]
d values:
[ 0.80001699  0.29844923 -0.25019143]
      533      534      4.7793e-12      7.76e-14      2.00e-02      9.07e-08
Current map parameters:
x points:
[0.      0.29949069 0.69957504 1.      ]
y points:

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```

[0.          0.20008926 0.50079915 0.01          ]
d values:
[ 0.80001687  0.29846117 -0.25018999]
      534          535          4.7029e-12          7.64e-14          2.00e-02          9.00e-08
Current map parameters:
x points:
[0.          0.2994946  0.69957834 1.          ]
y points:
[ 0.          0.20008857  0.50079297 -0.00999998]
d values:
[ 0.80001676  0.29847303 -0.25018857]
      535          536          4.6278e-12          7.52e-14          2.00e-02          8.93e-08
Current map parameters:
x points:
[0.          0.29950237 0.69958488 1.          ]
y points:
[ 0.          0.2000872  0.50078073 -0.01          ]
d values:
[ 0.80001654  0.29849657 -0.25018574]
      536          537          4.4805e-12          1.47e-13          2.86e-05          8.78e-08
Current map parameters:
x points:
[0.          0.29950621 0.69958811 1.          ]
y points:
[0.          0.20008653 0.5007747  0.01          ]
d values:
[ 0.80001641  0.29850819 -0.25018434]
      537          538          4.4088e-12          7.16e-14          2.00e-02          8.71e-08
Current map parameters:
x points:
[0.          0.29951381 0.69959451 1.          ]
y points:
[0.          0.20008519 0.50076272 0.01          ]
d values:
[ 0.80001618  0.2985312  -0.25018158]
      538          539          4.2684e-12          1.40e-13          2.80e-05          8.57e-08
      539          540          4.1325e-12          1.36e-13          2.76e-05          8.43e-08
Current map parameters:
x points:
[0.          0.2995287  0.69960703 1.          ]
y points:
[0.          0.20008257 0.50073929 0.01          ]
d values:
[ 0.80001572  0.29857627 -0.25017613]
      540          541          4.0008e-12          1.32e-13          2.72e-05          8.30e-08
Current map parameters:
x points:
[0.          0.29953599 0.69961316 1.          ]

```

```

y points:
[0.          0.20008129 0.50072783 0.01          ]
d values:
[ 0.8000155   0.29859831 -0.25017347]
      541          542          3.8733e-12      1.28e-13      2.68e-05      8.17e-08
Current map parameters:
x points:
[0.          0.29953957 0.69961619 1.          ]
y points:
[ 0.          0.20008066 0.50072219 -0.01          ]
d values:
[ 0.80001539 0.29860917 -0.25017216]
      542          543          3.8113e-12      6.20e-14      2.00e-02      8.10e-08
Current map parameters:
x points:
[0.          0.29954313 0.69961917 1.          ]
y points:
[0.          0.20008004 0.50071658 0.01          ]
d values:
[ 0.80001528 0.29861995 -0.25017085]
      543          544          3.7502e-12      6.10e-14      2.00e-02      8.03e-08
Current map parameters:
x points:
[0.          0.2995502 0.69962511 1.          ]
y points:
[0.          0.20007879 0.50070547 0.01          ]
d values:
[ 0.80001506 0.29864136 -0.25016826]
      544          545          3.6307e-12      1.20e-13      2.60e-05      7.90e-08
Current map parameters:
x points:
[0.          0.29955368 0.69962804 1.          ]
y points:
[ 0.          0.20007817 0.50069997 -0.00999998]
d values:
[ 0.80001495 0.2986519 -0.25016699]
      545          546          3.5725e-12      5.82e-14      2.00e-02      7.84e-08
Current map parameters:
x points:
[0.          0.2995606 0.69963385 1.          ]
y points:
[ 0.          0.20007696 0.50068909 -0.01          ]
d values:
[ 0.80001476 0.29867284 -0.25016445]
      546          547          3.4585e-12      1.14e-13      2.54e-05      7.71e-08
Current map parameters:
x points:
[0.          0.29956401 0.69963671 1.          ]

```

```

y points:
[0.      0.20007636 0.50068373 0.01      ]
d values:
[ 0.80001463  0.29868316 -0.2501632 ]
      547      548      3.4031e-12      5.54e-14      2.00e-02      7.65e-08
Current map parameters:
x points:
[0.      0.29957077 0.6996424  1.      ]
y points:
[0.      0.20007517 0.50067309 0.01      ]
d values:
[ 0.80001442  0.29870363 -0.25016074]
      548      549      3.2945e-12      1.09e-13      2.49e-05      7.53e-08
      549      550      3.1893e-12      1.05e-13      2.45e-05      7.41e-08
Current map parameters:
x points:
[0.      0.29958073 0.69965075 1.      ]
y points:
[ 0.      0.20007342  0.50065743 -0.01      ]
d values:
[ 0.80001411  0.29873374 -0.25015707]
      550      551      3.1382e-12      5.11e-14      2.00e-02      7.35e-08
Current map parameters:
x points:
[0.      0.29958726 0.69965623 1.      ]
y points:
[ 0.      0.20007227  0.50064718 -0.01      ]
d values:
[ 0.80001391  0.29875347 -0.25015467]
      551      552      3.0379e-12      1.00e-13      2.40e-05      7.23e-08
Current map parameters:
x points:
[0.      0.29959367 0.69966163 1.      ]
y points:
[ 0.      0.20007114  0.50063708 -0.01      ]
d values:
[ 0.80001371  0.29877291 -0.25015231]
      552      553      2.9409e-12      9.71e-14      2.36e-05      7.11e-08
Current map parameters:
x points:
[0.      0.29959684 0.69966427 1.      ]
y points:
[0.      0.2000706  0.5006321  0.01      ]
d values:
[ 0.80001361  0.29878248 -0.25015114]
      553      554      2.8937e-12      4.72e-14      2.00e-02      7.06e-08
Current map parameters:
x points:

```

```

[0.          0.29960312 0.69966954 1.          ]
y points:
[0.          0.20006948 0.50062224 0.01          ]
d values:
[ 0.80001341  0.29880149 -0.25014883]
      554          555          2.8012e-12          9.25e-14          2.31e-05          6.94e-08
Current map parameters:
x points:
[0.          0.29960622 0.69967214 1.          ]
y points:
[ 0.          0.20006894  0.50061736 -0.00999998]
d values:
[ 0.80001331  0.29881085 -0.25014769]
      555          556          2.7563e-12          4.50e-14          2.00e-02          6.89e-08
Current map parameters:
x points:
[0.          0.29961236 0.69967729 1.          ]
y points:
[ 0.          0.20006786  0.5006077  -0.01          ]
d values:
[ 0.80001313  0.29882944 -0.25014543]
      556          557          2.6681e-12          8.81e-14          2.26e-05          6.77e-08
Current map parameters:
x points:
[0.          0.29961539 0.69967983 1.          ]
y points:
[0.          0.20006733 0.50060294 0.01          ]
d values:
[ 0.80001302  0.29883861 -0.25014431]
      557          558          2.6253e-12          4.28e-14          2.00e-02          6.72e-08
Current map parameters:
x points:
[0.          0.29961839 0.69968234 1.          ]
y points:
[ 0.          0.2000668  0.50059822 -0.01          ]
d values:
[ 0.80001293  0.29884768 -0.25014322]
      558          559          2.5831e-12          4.22e-14          2.00e-02          6.66e-08
      559          560          2.5005e-12          8.26e-14          2.19e-05          6.56e-08
Current map parameters:
x points:
[0.          0.29963023 0.69969226 1.          ]
y points:
[ 0.          0.20006472  0.50057961 -0.01          ]
d values:
[ 0.80001255  0.29888348 -0.25013884]
      560          561          2.4205e-12          8.00e-14          2.16e-05          6.45e-08
Current map parameters:

```



```

x points:
[0.      0.29963314 0.69969469 1.      ]
y points:
[0.      0.20006421 0.50057507 0.01    ]
d values:
[ 0.80001246  0.29889224 -0.25013777]
      561      562      2.3816e-12      3.89e-14      2.00e-02      6.40e-08
Current map parameters:
x points:
[0.      0.299636   0.69969711 1.      ]
y points:
[ 0.      0.20006371  0.50057055 -0.01    ]
d values:
[ 0.80001237  0.29890092 -0.25013671]
      562      563      2.3433e-12      3.83e-14      2.00e-02      6.35e-08
Current map parameters:
x points:
[0.      0.29963885 0.69969948 1.      ]
y points:
[0.      0.20006322 0.50056607 0.01    ]
d values:
[ 0.80001228  0.29890954 -0.25013566]
      563      564      2.3057e-12      3.77e-14      2.00e-02      6.30e-08
Current map parameters:
x points:
[0.      0.29964168 0.69970185 1.      ]
y points:
[ 0.      0.20006271  0.50056164 -0.01    ]
d values:
[ 0.80001219  0.2989181  -0.25013461]
      564      565      2.2686e-12      3.71e-14      2.00e-02      6.24e-08
Current map parameters:
x points:
[0.      0.29964449 0.6997042  1.      ]
y points:
[0.      0.20006222 0.50055722 0.00999998]
d values:
[ 0.8000121  0.29892659 -0.25013357]
      565      566      2.2321e-12      3.65e-14      2.00e-02      6.19e-08
Current map parameters:
x points:
[0.      0.29965006 0.69970887 1.      ]
y points:
[0.      0.20006124 0.50054846 0.01    ]
d values:
[ 0.80001193  0.29894344 -0.25013151]
      566      567      2.1607e-12      7.15e-14      2.05e-05      6.09e-08
Current map parameters:

```

```

x points:
[0.      0.29965555 0.69971347 1.      ]
y points:
[0.      0.20006028 0.50053983 0.01    ]
d values:
[ 0.80001174  0.29896006 -0.25012948]
      567      568      2.0915e-12      6.92e-14      2.02e-05      6.00e-08
Current map parameters:
x points:
[0.      0.29965826 0.69971573 1.      ]
y points:
[ 0.      0.2000598  0.50053559 -0.01    ]
d values:
[ 0.80001165  0.29896822 -0.2501285 ]
      568      569      2.0578e-12      3.36e-14      2.00e-02      5.95e-08
      569      570      1.9919e-12      6.59e-14      1.97e-05      5.85e-08
Current map parameters:
x points:
[0.      0.29966892 0.69972464 1.      ]
y points:
[ 0.      0.20005793 0.50051885 -0.01    ]
d values:
[ 0.80001131  0.29900044 -0.25012454]
      570      571      1.9281e-12      6.38e-14      1.94e-05      5.76e-08
Current map parameters:
x points:
[0.      0.29967153 0.69972682 1.      ]
y points:
[0.      0.20005748 0.50051476 0.01    ]
d values:
[ 0.80001123  0.29900831 -0.25012357]
      571      572      1.8970e-12      3.10e-14      2.00e-02      5.71e-08
Current map parameters:
x points:
[0.      0.2996741 0.699729 1.      ]
y points:
[ 0.      0.20005702 0.5005107  -0.01    ]
d values:
[ 0.80001114  0.29901612 -0.25012261]
      572      573      1.8665e-12      3.05e-14      2.00e-02      5.66e-08
Current map parameters:
x points:
[0.      0.29967667 0.69973113 1.      ]
y points:
[0.      0.20005659 0.50050668 0.01    ]
d values:
[ 0.80001106  0.29902387 -0.25012166]
      573      574      1.8365e-12      3.00e-14      2.00e-02      5.62e-08

```

Current map parameters:

x points:

[0. 0.29967921 0.69973326 1.]

y points:

[0. 0.20005613 0.50050269 -0.01]

d values:

[0.80001098 0.29903157 -0.25012072]

574 575 1.8069e-12 2.96e-14 2.00e-02 5.57e-08

Current map parameters:

x points:

[0. 0.29968427 0.69973748 1.]

y points:

[0. 0.20005524 0.50049475 -0.00999998]

d values:

[0.80001081 0.29904684 -0.25011885]

575 576 1.7489e-12 5.79e-14 1.85e-05 5.48e-08

Current map parameters:

x points:

[0. 0.29968924 0.69974164 1.]

y points:

[0. 0.20005437 0.50048693 -0.01]

d values:

[0.80001067 0.29906188 -0.250117]

576 577 1.6929e-12 5.61e-14 1.83e-05 5.39e-08

Current map parameters:

x points:

[0. 0.29969414 0.69974574 1.]

y points:

[0. 0.20005351 0.50047924 -0.01]

d values:

[0.80001049 0.29907671 -0.25011518]

577 578 1.6386e-12 5.43e-14 1.80e-05 5.31e-08

Current map parameters:

x points:

[0. 0.29969897 0.69974977 1.]

y points:

[0. 0.20005266 0.50047166 -0.01]

d values:

[0.80001033 0.29909128 -0.2501134]

578 579 1.5860e-12 5.26e-14 1.77e-05 5.22e-08

579 580 1.5351e-12 5.09e-14 1.74e-05 5.14e-08

Current map parameters:

x points:

[0. 0.29970841 0.69975765 1.]

y points:

[0. 0.20005101 0.50045685 -0.01]

d values:

[0.80001002 0.29911979 -0.25010988]

580	581	1.4858e-12	4.93e-14	1.72e-05	5.05e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29971303	0.6997615	1.]
-----	------------	-----------	----	---

y points:

[0.	0.2000502	0.50044962	-0.01]
------	-----------	------------	-------	---

d values:

[0.80000987	0.29913372	-0.25010817]
--------------	------------	--------------

581	582	1.4381e-12	4.77e-14	1.69e-05	4.97e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29971528	0.69976341	1.]
-----	------------	------------	----	---

y points:

[0.	0.2000498	0.50044606	0.01]
-----	-----------	------------	------	---

d values:

[0.8000098	0.29914058	-0.25010732]
-------------	------------	--------------

582	583	1.4149e-12	2.32e-14	2.00e-02	4.93e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29971754	0.69976528	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004942	0.50044252	-0.01]
------	------------	------------	-------	---

d values:

[0.80000972	0.29914738	-0.25010648]
--------------	------------	--------------

583	584	1.3921e-12	2.28e-14	2.00e-02	4.89e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29971977	0.69976715	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004901	0.50043903	0.01]
-----	------------	------------	------	---

d values:

[0.80000965	0.29915414	-0.25010565]
--------------	------------	--------------

584	585	1.3697e-12	2.24e-14	2.00e-02	4.85e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29972421	0.69977085	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004824	0.50043205	0.00999998]
-----	------------	------------	-------------

d values:

[0.80000951	0.29916754	-0.250104]
--------------	------------	-------------

585	586	1.3257e-12	4.40e-14	1.63e-05	4.77e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29972858	0.6997745	1.]
-----	------------	-----------	----	---

y points:

[0.	0.20004747	0.5004252	0.01]
-----	------------	-----------	------	---

d values:

[0.80000938	0.29918074	-0.25010237]
--------------	------------	--------------

586	587	1.2831e-12	4.26e-14	1.60e-05	4.69e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29973288	0.69977809	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004672	0.50041845	0.01]
-----	------------	------------	------	---

d values:

[0.80000922	0.29919375	-0.25010077]
---	------------	------------	--------------

587	588	1.2418e-12	4.12e-14	1.58e-05	4.62e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29973712	0.69978162	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004597	0.5004118	0.01]
-----	------------	-----------	------	---

d values:

[0.80000908	0.29920654	-0.25009921]
---	------------	------------	--------------

588	589	1.2019e-12	3.99e-14	1.55e-05	4.54e-08
589	590	1.1633e-12	3.86e-14	1.53e-05	4.47e-08

Current map parameters:

x points:

[0.	0.29974539	0.69978853	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004452	0.50039882	0.01]
-----	------------	------------	------	---

d values:

[0.8000088	0.29923154	-0.25009611]
---	-----------	------------	--------------

590	591	1.1259e-12	3.74e-14	1.51e-05	4.40e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29974743	0.69979021	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004417	0.50039564	-0.01]
---	----	------------	------------	-------	---

d values:

[0.80000874	0.29923765	-0.25009535]
---	------------	------------	--------------

591	592	1.1077e-12	1.82e-14	2.00e-02	4.36e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29975143	0.69979358	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004347	0.50038935	-0.01]
---	----	------------	------------	-------	---

d values:

[0.8000086	0.29924977	-0.25009385]
---	-----------	------------	--------------

592	593	1.0721e-12	3.56e-14	1.47e-05	4.29e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29975538	0.69979686	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004279	0.50038315	-0.01]
---	----	------------	------------	-------	---

d values:

[0.80000847	0.29926171	-0.25009238]				
593	594	1.0376e-12	3.45e-14	1.45e-05	4.22e-08	

Current map parameters:

x points:

[0.	0.29975733	0.69979848	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004243	0.50038012	0.01]
-----	------------	------------	------	---

d values:

[0.80000841	0.29926758	-0.25009165]				
594	595	1.0209e-12	1.68e-14	2.00e-02	4.19e-08	

Current map parameters:

x points:

[0.	0.29976119	0.6998017	1.]
-----	------------	-----------	----	---

y points:

[0.	0.20004176	0.50037405	0.00999998]
-----	------------	------------	-------------

d values:

[0.80000828	0.29927924	-0.25009021]				
595	596	9.8803e-13	3.28e-14	1.42e-05	4.12e-08	

Current map parameters:

x points:

[0.	0.29976499	0.69980486	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004109	0.50036809	0.01]
-----	------------	------------	------	---

d values:

[0.80000817	0.29929072	-0.25008879]				
596	597	9.5624e-13	3.18e-14	1.39e-05	4.05e-08	

Current map parameters:

x points:

[0.	0.29976686	0.69980642	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004076	0.50036515	-0.01]
------	------------	------------	-------	---

d values:

[0.80000809	0.29929639	-0.25008809]				
597	598	9.4079e-13	1.55e-14	2.00e-02	4.02e-08	

Current map parameters:

x points:

[0.	0.29977057	0.69980952	1.]
-----	------------	------------	----	---

y points:

[0.	0.20004011	0.50035933	-0.01]
------	------------	------------	-------	---

d values:

[0.80000796	0.29930759	-0.25008672]				
598	599	9.1051e-13	3.03e-14	1.36e-05	3.95e-08	
599	600	8.8120e-13	2.93e-14	1.34e-05	3.89e-08	

Current map parameters:

x points:

[0.	0.29977603	0.69981406	1.]
-----	------------	------------	----	---

y points:

[0.	0.20003916	0.50035077	0.01]
-----	------------	------------	------	---

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d values:
[ 0.80000778  0.29932406 -0.25008466]
      600      601      8.6696e-13      1.42e-14      2.00e-02      3.86e-08
Current map parameters:
x points:
[0.      0.29977961 0.69981704 1.      ]
y points:
[0.      0.20003853 0.50034517 0.01      ]
d values:
[ 0.80000766  0.29933485 -0.25008332]
      601      602      8.3905e-13      2.79e-14      1.31e-05      3.80e-08
Current map parameters:
x points:
[0.      0.29978311 0.69981998 1.      ]
y points:
[0.      0.20003792 0.50033966 0.01      ]
d values:
[ 0.80000754  0.29934547 -0.25008201]
      602      603      8.1203e-13      2.70e-14      1.29e-05      3.73e-08
Current map parameters:
x points:
[0.      0.29978657 0.69982285 1.      ]
y points:
[0.      0.20003733 0.50033424 0.01      ]
d values:
[ 0.80000743  0.29935592 -0.25008071]
      603      604      7.8588e-13      2.62e-14      1.27e-05      3.67e-08
Current map parameters:
x points:
[0.      0.29978998 0.69982569 1.      ]
y points:
[0.      0.20003672 0.50032891 0.01      ]
d values:
[ 0.80000731  0.29936621 -0.25007944]
      604      605      7.6057e-13      2.53e-14      1.25e-05      3.61e-08
Current map parameters:
x points:
[0.      0.29979334 0.69982848 1.      ]
y points:
[0.      0.20003613 0.50032363 0.00999998]
d values:
[ 0.8000072  0.29937634 -0.25007818]
      605      606      7.3607e-13      2.45e-14      1.23e-05      3.56e-08
Current map parameters:
x points:
[0.      0.29979664 0.69983123 1.      ]
y points:
[0.      0.20003555 0.50031846 0.01      ]

```

```

d values:
[ 0.8000071  0.29938631 -0.25007694]
      606           607           7.1235e-13           2.37e-14           1.21e-05           3.50e-08
Current map parameters:
x points:
[0.           0.29979826 0.69983259 1.           ]
y points:
[ 0.           0.20003527  0.50031591 -0.01           ]
d values:
[ 0.80000703  0.29939123 -0.25007633]
      607           608           7.0083e-13           1.15e-14           2.00e-02           3.47e-08
Current map parameters:
x points:
[0.           0.29980149 0.69983527 1.           ]
y points:
[ 0.           0.2000347   0.50031085 -0.01           ]
d values:
[ 0.80000692  0.29940096 -0.25007514]
      608           609           6.7824e-13           2.26e-14           1.18e-05           3.41e-08
      609           610           6.6727e-13           1.10e-14           2.00e-02           3.39e-08
Current map parameters:
x points:
[0.           0.29980623 0.69983922 1.           ]
y points:
[0.           0.20003387 0.50030343 0.01           ]
d values:
[ 0.80000676  0.29941526 -0.25007335]
      610           611           6.4576e-13           2.15e-14           1.15e-05           3.33e-08
Current map parameters:
x points:
[0.           0.29980779 0.69984051 1.           ]
y points:
[ 0.           0.2000336   0.500301   -0.01           ]
d values:
[ 0.80000671  0.29941995 -0.25007276]
      611           612           6.3531e-13           1.05e-14           2.00e-02           3.30e-08
Current map parameters:
x points:
[0.           0.29981085 0.69984308 1.           ]
y points:
[ 0.           0.20003306  0.50029617 -0.01           ]
d values:
[ 0.8000066   0.29942924 -0.25007161]
      612           613           6.1483e-13           2.05e-14           1.13e-05           3.25e-08
Current map parameters:
x points:
[0.           0.29981237 0.69984433 1.           ]
y points:

```



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[0.          0.20003281 0.5002938  0.01          ]
d values:
[ 0.80000655  0.29943381 -0.25007104]
      613          614          6.0487e-13          9.95e-15          2.00e-02          3.22e-08
Current map parameters:
x points:
[0.          0.29981387 0.69984558 1.          ]
y points:
[ 0.          0.20003253  0.50029146 -0.01          ]
d values:
[ 0.8000065  0.29943835 -0.25007048]
      614          615          5.9508e-13          9.79e-15          2.00e-02          3.20e-08
Current map parameters:
x points:
[0.          0.29981685 0.69984806 1.          ]
y points:
[ 0.          0.20003201  0.50028677 -0.00999998]
d values:
[ 0.8000064  0.29944735 -0.25006936]
      615          616          5.7589e-13          1.92e-14          1.09e-05          3.14e-08
Current map parameters:
x points:
[0.          0.29981979 0.6998505  1.          ]
y points:
[ 0.          0.2000315  0.50028217 -0.01          ]
d values:
[ 0.80000632 0.29945621 -0.25006825]
      616          617          5.5732e-13          1.86e-14          1.08e-05          3.09e-08
Current map parameters:
x points:
[0.          0.29982268 0.6998529  1.          ]
y points:
[ 0.          0.20003099  0.50027764 -0.01          ]
d values:
[ 0.8000062  0.29946495 -0.25006717]
      617          618          5.3934e-13          1.80e-14          1.06e-05          3.04e-08
Current map parameters:
x points:
[0.          0.2998241  0.69985409 1.          ]
y points:
[0.          0.20003074 0.50027541 0.01          ]
d values:
[ 0.80000615 0.29946922 -0.25006665]
      618          619          5.3061e-13          8.74e-15          2.00e-02          3.02e-08
      619          620          5.2201e-13          8.59e-15          2.00e-02          2.99e-08
Current map parameters:
x points:
[0.          0.29982691 0.69985642 1.          ]

```

```

y points:
[0.      0.20003025 0.50027101 0.01      ]
d values:
[ 0.80000606  0.29947771 -0.25006558]
      620      621      5.1356e-13      8.46e-15      2.00e-02      2.97e-08
Current map parameters:
x points:
[0.      0.2998297  0.69985873 1.      ]
y points:
[0.      0.20002977 0.50026666 0.01      ]
d values:
[ 0.80000596  0.29948609 -0.25006453]
      621      622      4.9699e-13      1.66e-14      1.02e-05      2.92e-08
Current map parameters:
x points:
[0.      0.29983105 0.69985989 1.      ]
y points:
[ 0.      0.20002953  0.50026452 -0.01      ]
d values:
[ 0.80000592  0.29949022 -0.25006402]
      622      623      4.8893e-13      8.05e-15      2.00e-02      2.90e-08
Current map parameters:
x points:
[0.      0.29983241 0.699861  1.      ]
y points:
[0.      0.20002931 0.50026239 0.01      ]
d values:
[ 0.80000587  0.29949431 -0.25006351]
      623      624      4.8101e-13      7.92e-15      2.00e-02      2.87e-08
Current map parameters:
x points:
[0.      0.29983375 0.69986212 1.      ]
y points:
[ 0.      0.20002906  0.5002603  -0.01      ]
d values:
[ 0.80000582  0.29949838 -0.250063  ]
      624      625      4.7322e-13      7.79e-15      2.00e-02      2.85e-08
Current map parameters:
x points:
[0.      0.29983509 0.69986323 1.      ]
y points:
[0.      0.20002882 0.50025819 0.00999998]
d values:
[ 0.80000578  0.29950241 -0.2500625  ]
      625      626      4.6555e-13      7.67e-15      2.00e-02      2.83e-08
Current map parameters:
x points:
[0.      0.29983774 0.69986543 1.      ]

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y points:
[0.      0.20002836 0.50025404 0.01      ]
d values:
[ 0.8000057   0.2995104  -0.25006151]
      626      627      4.5052e-13      1.50e-14      9.71e-06      2.78e-08
Current map parameters:
x points:
[0.      0.29984035 0.6998676  1.      ]
y points:
[0.      0.2000279  0.50024996 0.01      ]
d values:
[ 0.8000056   0.29951829 -0.25006052]
      627      628      4.3598e-13      1.45e-14      9.56e-06      2.74e-08
Current map parameters:
x points:
[0.      0.29984291 0.69986973 1.      ]
y points:
[0.      0.20002745 0.50024593 0.01      ]
d values:
[ 0.80000551  0.29952602 -0.25005957]
      628      629      4.2191e-13      1.41e-14      9.40e-06      2.69e-08
      629      630      4.1507e-13      6.84e-15      2.00e-02      2.67e-08
Current map parameters:
x points:
[0.      0.29984668 0.69987286 1.      ]
y points:
[ 0.      0.20002679  0.50024003 -0.01      ]
d values:
[ 0.80000538  0.29953739 -0.25005814]
      630      631      4.0166e-13      1.34e-14      9.18e-06      2.63e-08
Current map parameters:
x points:
[0.      0.29984793 0.69987389 1.      ]
y points:
[0.      0.20002658 0.5002381  0.01      ]
d values:
[ 0.80000534  0.29954112 -0.25005767]
      631      632      3.9515e-13      6.51e-15      2.00e-02      2.60e-08
Current map parameters:
x points:
[0.      0.29985036 0.69987594 1.      ]
y points:
[0.      0.20002615 0.50023427 0.01      ]
d values:
[ 0.80000526  0.2995485  -0.25005675]
      632      633      3.8239e-13      1.28e-14      8.97e-06      2.56e-08
Current map parameters:
x points:

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[0.          0.29985277 0.69987792 1.          ]
y points:
[0.          0.20002574 0.50023049 0.01          ]
d values:
[ 0.80000517  0.29955577 -0.25005585]
      633          634          3.7004e-13          1.24e-14          8.82e-06          2.52e-08
Current map parameters:
x points:
[0.          0.29985514 0.69987989 1.          ]
y points:
[0.          0.20002531 0.50022679 0.01          ]
d values:
[ 0.80000509  0.29956292 -0.25005495]
      634          635          3.5809e-13          1.20e-14          8.69e-06          2.48e-08
Current map parameters:
x points:
[0.          0.2998563  0.69988086 1.          ]
y points:
[ 0.          0.20002511  0.50022495 -0.00999998]
d values:
[ 0.80000505  0.29956644 -0.25005451]
      635          636          3.5228e-13          5.81e-15          2.00e-02          2.46e-08
Current map parameters:
x points:
[0.          0.29985746 0.69988182 1.          ]
y points:
[0.          0.20002491 0.50022314 0.01          ]
d values:
[ 0.80000503  0.29956994 -0.25005408]
      636          637          3.4657e-13          5.71e-15          2.00e-02          2.44e-08
Current map parameters:
x points:
[0.          0.29985861 0.69988278 1.          ]
y points:
[ 0.          0.20002471  0.50022134 -0.01          ]
d values:
[ 0.80000497  0.29957342 -0.25005364]
      637          638          3.4095e-13          5.62e-15          2.00e-02          2.42e-08
Current map parameters:
x points:
[0.          0.29986089 0.69988467 1.          ]
y points:
[ 0.          0.20002431  0.50021777 -0.01          ]
d values:
[ 0.80000489  0.29958027 -0.2500528 ]
      638          639          3.2993e-13          1.10e-14          8.35e-06          2.38e-08
      639          640          3.1927e-13          1.07e-14          8.21e-06          2.34e-08
Current map parameters:

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x points:
[0.          0.29986533 0.69988837 1.          ]
y points:
[ 0.          0.20002353  0.50021081 -0.01          ]
d values:
[ 0.80000474  0.2995937  -0.25005111]
      640          641          3.0895e-13          1.03e-14          8.08e-06          2.30e-08
Current map parameters:
x points:
[0.          0.29986643 0.69988927 1.          ]
y points:
[0.          0.20002334 0.50020911 0.01          ]
d values:
[ 0.8000047  0.29959697 -0.2500507 ]
      641          642          3.0394e-13          5.01e-15          2.00e-02          2.28e-08
Current map parameters:
x points:
[0.          0.2998675  0.69989018 1.          ]
y points:
[ 0.          0.20002315  0.50020742 -0.01          ]
d values:
[ 0.80000466  0.29960023 -0.25005029]
      642          643          2.9901e-13          4.93e-15          2.00e-02          2.27e-08
Current map parameters:
x points:
[0.          0.29986963 0.69989194 1.          ]
y points:
[ 0.          0.20002279  0.50020407 -0.01          ]
d values:
[ 0.80000459  0.29960667 -0.25004949]
      643          644          2.8934e-13          9.66e-15          7.83e-06          2.23e-08
Current map parameters:
x points:
[0.          0.29987068 0.69989281 1.          ]
y points:
[0.          0.2000226  0.50020244 0.01          ]
d values:
[ 0.80000455  0.29960985 -0.25004909]
      644          645          2.8465e-13          4.70e-15          2.00e-02          2.21e-08
Current map parameters:
x points:
[0.          0.29987277 0.69989454 1.          ]
y points:
[0.          0.20002223 0.50019916 0.00999998]
d values:
[ 0.80000448  0.29961614 -0.2500483 ]
      645          646          2.7545e-13          9.20e-15          7.64e-06          2.17e-08
Current map parameters:

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x points:
[0.      0.29987482 0.69989625 1.      ]
y points:
[0.      0.20002187 0.50019594 0.01    ]
d values:
[ 0.80000443  0.29962234 -0.25004753]
      646      647      2.6654e-13      8.90e-15      7.52e-06      2.14e-08
Current map parameters:
x points:
[0.      0.29987684 0.69989793 1.      ]
y points:
[0.      0.20002152 0.50019278 0.01    ]
d values:
[ 0.80000434  0.29962845 -0.25004676]
      647      648      2.5792e-13      8.62e-15      7.40e-06      2.10e-08
Current map parameters:
x points:
[0.      0.29987784 0.69989875 1.      ]
y points:
[ 0.      0.20002135  0.50019122 -0.01    ]
d values:
[ 0.80000431  0.29963144 -0.2500464 ]
      648      649      2.5374e-13      4.19e-15      2.00e-02      2.09e-08
      649      650      2.4962e-13      4.12e-15      2.00e-02      2.07e-08
Current map parameters:
x points:
[0.      0.2998798  0.69990038 1.      ]
y points:
[ 0.      0.200021  0.50018814 -0.01    ]
d values:
[ 0.80000424  0.29963737 -0.25004565]
      650      651      2.4556e-13      4.05e-15      2.00e-02      2.05e-08
Current map parameters:
x points:
[0.      0.29988176 0.69990199 1.      ]
y points:
[ 0.      0.20002066  0.5001851  -0.01    ]
d values:
[ 0.80000417  0.29964323 -0.25004491]
      651      652      2.3762e-13      7.94e-15      7.11e-06      2.02e-08
Current map parameters:
x points:
[0.      0.2998827 0.6999028 1.      ]
y points:
[0.      0.2000205  0.50018361 0.01    ]
d values:
[ 0.80000414  0.29964611 -0.25004455]
      652      653      2.3377e-13      3.86e-15      2.00e-02      2.00e-08

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Current map parameters:

x points:

[0. 0.29988365 0.69990357 1.]

y points:

[0. 0.20002034 0.50018212 -0.01]

d values:

[0.80000411 0.29964897 -0.25004419]
653 654 2.2997e-13 3.80e-15 2.00e-02 1.99e-08

Current map parameters:

x points:

[0. 0.29988553 0.69990513 1.]

y points:

[0. 0.20002 0.50017919 -0.01]

d values:

[0.80000404 0.29965464 -0.25004348]
654 655 2.2253e-13 7.44e-15 6.89e-06 1.95e-08

Current map parameters:

x points:

[0. 0.29988738 0.69990667 1.]

y points:

[0. 0.20001968 0.50017628 -0.00999998]

d values:

[0.80000398 0.29966023 -0.25004279]
655 656 2.1533e-13 7.20e-15 6.78e-06 1.92e-08

Current map parameters:

x points:

[0. 0.29988829 0.69990743 1.]

y points:

[0. 0.20001952 0.50017486 0.01]

d values:

[0.80000396 0.29966297 -0.25004244]
656 657 2.1184e-13 3.50e-15 2.00e-02 1.91e-08

Current map parameters:

x points:

[0. 0.29989009 0.69990893 1.]

y points:

[0. 0.2000192 0.50017203 0.01]

d values:

[0.80000388 0.29966844 -0.25004176]
657 658 2.0498e-13 6.85e-15 6.62e-06 1.88e-08

Current map parameters:

x points:

[0. 0.29989187 0.6999104 1.]

y points:

[0. 0.20001889 0.50016924 0.01]

d values:

[0.80000382 0.29967379 -0.2500411]
658 659 1.9835e-13 6.63e-15 6.51e-06 1.85e-08

659	660	1.9193e-13	6.42e-15	6.41e-06	1.81e-08
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Current map parameters:

x points:

[0.	0.29989448	0.69991257	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001844	0.50016516	-0.01]
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d values:

[0.80000373	0.29968166	-0.2500401]
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660	661	1.8882e-13	3.12e-15	2.00e-02	1.80e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.2998962	0.69991398	1.]
-----	-----------	------------	----	---

y points:

[0.	0.20001814	0.50016248	-0.01]
------	------------	------------	-------	---

d values:

[0.80000367	0.29968681	-0.25003945]
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661	662	1.8271e-13	6.11e-15	6.25e-06	1.77e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29989703	0.6999147	1.]
-----	------------	-----------	----	---

y points:

[0.	0.20001799	0.50016117	0.01]
-----	------------	------------	------	---

d values:

[0.80000364	0.29968935	-0.25003914]
--------------	------------	--------------

662	663	1.7974e-13	2.97e-15	2.00e-02	1.76e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29989786	0.69991537	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001786	0.50015986	-0.01]
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d values:

[0.80000361	0.29969186	-0.25003882]
--------------	------------	--------------

663	664	1.7682e-13	2.92e-15	2.00e-02	1.74e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29989869	0.69991606	1.]
-----	------------	------------	----	---

y points:

[0.	0.2000177	0.50015858	0.01]
-----	-----------	------------	------	---

d values:

[0.80000358	0.29969436	-0.25003851]
--------------	------------	--------------

664	665	1.7394e-13	2.87e-15	2.00e-02	1.73e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29990033	0.69991742	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001741	0.500156	0.00999998]
-----	------------	----------	-------------

d values:

[0.80000352	0.29969931	-0.25003789]
--------------	------------	--------------

665	666	1.6831e-13	5.63e-15	6.01e-06	1.70e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29990113	0.69991809	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001727	0.50015474	-0.01]
------	------------	------------	-------	---

d values:

[0.80000351	0.29970174	-0.25003758]
--------------	------------	--------------

666	667	1.6558e-13	2.74e-15	2.00e-02	1.69e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29990274	0.69991942	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001699	0.50015223	-0.01]
------	------------	------------	-------	---

d values:

[0.80000344	0.29970659	-0.25003698]
--------------	------------	--------------

667	668	1.6022e-13	5.36e-15	5.86e-06	1.66e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29990431	0.69992072	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001672	0.50014976	-0.01]
------	------------	------------	-------	---

d values:

[0.80000339	0.29971132	-0.25003639]
--------------	------------	--------------

668	669	1.5503e-13	5.19e-15	5.77e-06	1.63e-08
669	670	1.5001e-13	5.02e-15	5.68e-06	1.60e-08

Current map parameters:

x points:

[0.	0.29990662	0.69992264	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001631	0.50014614	0.01]
-----	------------	------------	------	---

d values:

[0.8000033	0.2997183	-0.2500355]
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670	671	1.4758e-13	2.44e-15	2.00e-02	1.59e-08
-----	-----	------------	----------	----------	----------

Current map parameters:

x points:

[0.	0.29990739	0.69992327	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001618	0.50014496	-0.01]
------	------------	------------	-------	---

d values:

[0.80000328	0.29972059	-0.25003522]
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671	672	1.4518e-13	2.40e-15	2.00e-02	1.58e-08
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Current map parameters:

x points:

[0.	0.29990888	0.69992453	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001592	0.50014261	-0.01]
------	------------	------------	-------	---

d values:

[0.80000323	0.29972511	-0.25003465]				
672	673	1.4048e-13	4.70e-15	5.50e-06	1.55e-08	
Current map parameters:						
x points:						
[0.	0.29990962	0.69992513	1.]		
y points:						
[0.	0.2000158	0.50014145	0.01]		
d values:						
[0.8000032	0.29972734	-0.25003437]				
673	674	1.3819e-13	2.28e-15	2.00e-02	1.54e-08	
Current map parameters:						
x points:						
[0.	0.29991108	0.69992634	1.]		
y points:						
[0.	0.20001553	0.50013917	0.01]		
d values:						
[0.80000315	0.29973176	-0.25003381]				
674	675	1.3372e-13	4.47e-15	5.37e-06	1.51e-08	
Current map parameters:						
x points:						
[0.	0.29991253	0.69992754	1.]		
y points:						
[0.	0.20001528	0.5001369	0.00999998]			
d values:						
[0.8000031	0.29973611	-0.25003327]				
675	676	1.2939e-13	4.33e-15	5.28e-06	1.49e-08	
Current map parameters:						
x points:						
[0.	0.29991394	0.69992872	1.]		
y points:						
[0.	0.20001503	0.50013468	0.01]		
d values:						
[0.80000306	0.29974039	-0.25003273]				
676	677	1.2520e-13	4.19e-15	5.20e-06	1.47e-08	
Current map parameters:						
x points:						
[0.	0.29991534	0.69992987	1.]		
y points:						
[0.	0.20001479	0.5001325	0.01]		
d values:						
[0.800003	0.29974462	-0.2500322]				
677	678	1.2114e-13	4.05e-15	5.11e-06	1.44e-08	
Current map parameters:						
x points:						
[0.	0.29991671	0.69993101	1.]		
y points:						
[0.	0.20001455	0.50013035	0.01]		
d values:						

[0.80000295	0.29974875	-0.2500317]			
678	679	1.1722e-13		3.92e-15	5.03e-06	1.42e-08
679	680	1.1342e-13		3.80e-15	4.95e-06	1.40e-08

Current map parameters:

x points:

[0.	0.29991873	0.69993268	1.]
-----	------------	------------	----	---

y points:

[0.	0.2000142	0.50012719	-0.01]
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d values:

[0.80000288	0.29975483	-0.25003092]			
680	681	1.1158e-13		1.84e-15	2.00e-02
					1.38e-08

Current map parameters:

x points:

[0.	0.2999194	0.69993323	1.]
-----	-----------	------------	----	---

y points:

[0.	0.20001408	0.50012616	0.01]
-----	------------	------------	------	---

d values:

[0.80000286	0.29975682	-0.25003067]			
681	682	1.0976e-13		1.81e-15	2.00e-02
					1.37e-08

Current map parameters:

x points:

[0.	0.2999207	0.69993433	1.]
-----	-----------	------------	----	---

y points:

[0.	0.20001385	0.50012411	0.01]
-----	------------	------------	------	---

d values:

[0.80000281	0.29976077	-0.25003017]			
682	683	1.0621e-13		3.56e-15	4.79e-06
					1.35e-08

Current map parameters:

x points:

[0.	0.29992134	0.69993485	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001376	0.5001231	-0.01]
------	------------	-----------	-------	---

d values:

[0.80000279	0.29976271	-0.25002993]			
683	684	1.0448e-13		1.73e-15	2.00e-02
					1.34e-08

Current map parameters:

x points:

[0.	0.29992262	0.69993591	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001352	0.50012112	-0.01]
------	------------	------------	-------	---

d values:

[0.80000274	0.29976656	-0.25002944]			
684	685	1.0110e-13		3.38e-15	4.68e-06
					1.32e-08

Current map parameters:

x points:

[0.	0.29992325	0.69993643	1.]
-----	------------	------------	----	---

y points:

[0.	0.20001341	0.50012012	0.00999998]	
-----	------------	------------	-------------	--

d values:
[0.80000272 0.29976846 -0.25002921]
685 686 9.9452e-14 1.64e-15 2.00e-02 1.31e-08
Current map parameters:
x points:
[0. 0.29992449 0.69993746 1.]
y points:
[0. 0.20001319 0.50011817 0.01]
d values:
[0.80000269 0.29977222 -0.25002873]
686 687 9.6230e-14 3.22e-15 4.56e-06 1.28e-08
Current map parameters:
x points:
[0. 0.29992572 0.69993848 1.]
y points:
[0. 0.20001298 0.50011625 0.01]
d values:
[0.80000264 0.29977593 -0.25002827]
687 688 9.3112e-14 3.12e-15 4.49e-06 1.26e-08
Current map parameters:
x points:
[0. 0.29992632 0.69993898 1.]
y points:
[0. 0.20001287 0.5001153 -0.01]
d values:
[0.80000261 0.29977774 -0.25002805]
688 689 9.1597e-14 1.51e-15 2.00e-02 1.25e-08
689 690 9.0107e-14 1.49e-15 2.00e-02 1.24e-08
Current map parameters:
x points:
[0. 0.29992751 0.69993997 1.]
y points:
[0. 0.20001266 0.50011344 -0.01]
d values:
[0.80000257 0.29978133 -0.25002759]
690 691 8.8641e-14 1.47e-15 2.00e-02 1.23e-08
Current map parameters:
x points:
[0. 0.29992812 0.69994046 1.]
y points:
[0. 0.20001256 0.50011252 0.01]
d values:
[0.80000255 0.29978311 -0.25002736]
691 692 8.7199e-14 1.44e-15 2.00e-02 1.22e-08
Current map parameters:
x points:
[0. 0.29992869 0.69994095 1.]
y points:

```

[ 0.          0.20001246  0.5001116  -0.01      ]
d values:
[ 0.80000253  0.29978487 -0.25002714]
      692          693          8.5780e-14      1.42e-15      2.00e-02      1.21e-08
Current map parameters:
x points:
[0.          0.29992927  0.69994142  1.          ]
y points:
[0.          0.20001237  0.5001107   0.01        ]
d values:
[ 0.80000251  0.29978662 -0.25002692]
      693          694          8.4384e-14      1.40e-15      2.00e-02      1.20e-08
Current map parameters:
x points:
[0.          0.29993041  0.69994237  1.          ]
y points:
[0.          0.20001216  0.50010891  0.01        ]
d values:
[ 0.80000247  0.29979009 -0.25002649]
      694          695          8.1649e-14      2.73e-15      4.21e-06      1.18e-08
Current map parameters:
x points:
[0.          0.29993155  0.69994331  1.          ]
y points:
[0.          0.20001196  0.50010713  0.00999998]
d values:
[ 0.80000243  0.2997935  -0.25002606]
      695          696          7.9003e-14      2.65e-15      4.14e-06      1.16e-08
Current map parameters:
x points:
[0.          0.29993266  0.69994423  1.          ]
y points:
[0.          0.20001176  0.50010538  0.01        ]
d values:
[ 0.80000241  0.29979686 -0.25002564]
      696          697          7.6443e-14      2.56e-15      4.08e-06      1.15e-08
Current map parameters:
x points:
[0.          0.29993321  0.69994469  1.          ]
y points:
[ 0.          0.20001167  0.50010453 -0.01        ]
d values:
[ 0.80000237  0.29979852 -0.25002543]
      697          698          7.5199e-14      1.24e-15      2.00e-02      1.14e-08
Current map parameters:
x points:
[0.          0.29993375  0.69994514  1.          ]
y points:

```

```

[0.          0.20001157 0.50010368 0.01          ]
d values:
[ 0.80000235  0.29980015 -0.25002524]
      698          699          7.3975e-14          1.22e-15          2.00e-02          1.13e-08
      699          700          7.2771e-14          1.20e-15          2.00e-02          1.12e-08
Current map parameters:
x points:
[0.          0.29993536 0.69994647 1.          ]
y points:
[ 0.          0.20001129  0.50010116 -0.01          ]
d values:
[ 0.8000023  0.29980499 -0.25002461]
      700          701          7.0412e-14          2.36e-15          3.91e-06          1.10e-08
Current map parameters:
x points:
[0.          0.29993642 0.69994734 1.          ]
y points:
[ 0.          0.20001111  0.50009952 -0.01          ]
d values:
[ 0.80000226  0.29980816 -0.25002421]
      701          702          6.8130e-14          2.28e-15          3.85e-06          1.08e-08
Current map parameters:
x points:
[0.          0.29993744 0.69994821 1.          ]
y points:
[ 0.          0.20001093  0.5000979  -0.01          ]
d values:
[ 0.80000222  0.29981128 -0.25002382]
      702          703          6.5921e-14          2.21e-15          3.79e-06          1.06e-08
Current map parameters:
x points:
[0.          0.29993846 0.69994904 1.          ]
y points:
[ 0.          0.20001077  0.50009631 -0.01          ]
d values:
[ 0.80000219  0.29981435 -0.25002343]
      703          704          6.3784e-14          2.14e-15          3.73e-06          1.05e-08
Current map parameters:
x points:
[0.          0.29993946 0.69994987 1.          ]
y points:
[ 0.          0.20001058  0.50009475 -0.01          ]
d values:
[ 0.80000215  0.29981737 -0.25002305]
      704          705          6.1716e-14          2.07e-15          3.67e-06          1.03e-08
Current map parameters:
x points:
[0.          0.29994044 0.69995069 1.          ]

```

```

y points:
[ 0.          0.2000104  0.5000932 -0.00999998]
d values:
[ 0.80000212  0.29982035 -0.25002268]
      705          706          5.9715e-14          2.00e-15          3.61e-06          1.01e-08
Current map parameters:
x points:
[0.          0.29994093 0.69995109 1.          ]
y points:
[0.          0.20001032 0.50009244 0.01          ]
d values:
[ 0.80000211  0.29982181 -0.2500225 ]
      706          707          5.8743e-14          9.72e-16          2.00e-02          1.00e-08
Current map parameters:
x points:
[0.          0.29994141 0.69995149 1.          ]
y points:
[ 0.          0.20001023 0.50009169 -0.01          ]
d values:
[ 0.80000208  0.29982327 -0.25002231]
      707          708          5.7787e-14          9.56e-16          2.00e-02          9.96e-09
`gtol` termination condition is satisfied.
Function evaluations 708, initial cost 3.0484e-04, final cost 5.7787e-14, first-order optimality
[ 0.3  0.7  0.2  0.5  0.  0.8  0.3 -0.25]

```

Take result of the optimisation

```

In [8]: print('Approximant:')
        print('x points:')
        x_ap = np.hstack( ([0],FIF_ls[:2],[1]))
        print(x_ap )
        print('y points:')
        y_ap = np.hstack( ([0],FIF_ls[2:5]))
        print(y_ap)
        print('d values:')
        d_ap = FIF_ls[5:]
        print(d_ap)

        A_app_3, b_app_3 = ft.inter_gen(x_ap,y_ap,d_ap,inc_a = False)

        FIF_3_ap = ft.chaos(A_app_3,b_app_3)
        FIF_3_ap = FIF_3_ap[FIF_3_ap[:,0].argsort()]

```

```

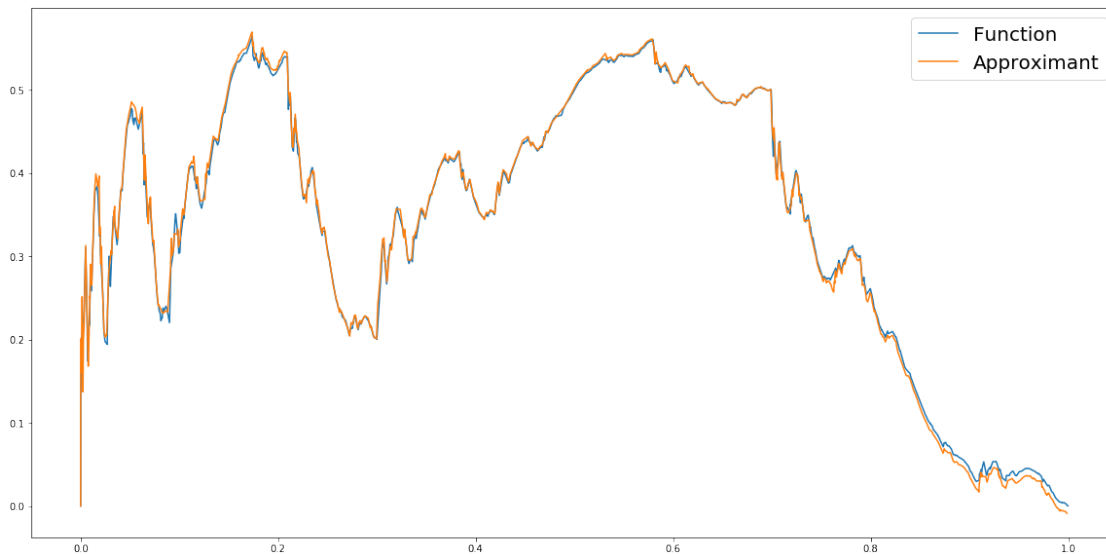
Approximant:
x points:
[0.          0.29994141 0.69995149 1.          ]
y points:

```

```
[ 0.          0.20001023  0.50009169 -0.01          ]
d values:
[ 0.80000208  0.29982326 -0.25002231]
```

```
In [9]: plt.figure(figsize = (20,10))
plt.plot(FIF_3[:,0],FIF_3[:,1], label = 'Function')
plt.plot(FIF_3_ap[:,0],FIF_3_ap[:,1], label = 'Approximant')
plt.legend(fontsize = 20)
```

```
Out[9]: <matplotlib.legend.Legend at 0x212d12fad30>
```



Now we look for only a local minima with more randomness added.

This is the fun part, be warned it is addictive to repeatedly run this with different starting points and see what comes out. Here we select a perturbation of the real answer and stop the optimisation early so not even a minima is found. This forms experimental evidence of the Collage Theorem for moments.

```
In [24]: k1 = 0
```

```
x_new0 = x0 + 0.1*np.random.randn(len(x0))
x_new0[4] = 0

bnds = ([0.1,0.5,-np.inf,-np.inf,-0.01,-1,-1,-1], [0.5,0.9,np.inf,np.inf,0.01,1,1,1])

sol_FIF_3 = least_squares(FIF_3_cost,x_new0 ,bounds= bnds,verbose = 2,max_nfev = 30)

print(sol_FIF_3.x)
```

Current map parameters:

x points:


```

[0.          0.23619465 0.83302955 1.          ]
y points:
[0.          0.23756438 0.54975246 0.          ]
d values:
[ 0.81297798  0.35467002 -0.24755186]
  Iteration      Total nfev      Cost      Cost reduction      Step norm      Optimality
      0              1      1.4466e-02
Current map parameters:
x points:
[0.          0.24096989 0.80873488 1.          ]
y points:
[0.          0.17183674 0.46403953 0.          ]
d values:
[ 0.79492604  0.30018982 -0.25538146]
      1              2      5.6072e-04      1.39e-02      1.25e-01      1.75e-02
Current map parameters:
x points:
[0.          0.24148339 0.80331605 1.          ]
y points:
[0.          0.16279188 0.44707603 0.          ]
d values:
[ 0.79319829  0.29259272 -0.2582132 ]
      2              3      2.8579e-04      2.75e-04      2.16e-02      3.29e-03
Current map parameters:
x points:
[0.          0.24167978 0.77022067 1.          ]
y points:
[0.          0.2258209 0.4199945 0.          ]
d values:
[ 0.79825952  0.30912789 -0.28011419]
      3              4      1.5010e-05      2.71e-04      8.11e-02      1.45e-03
Current map parameters:
x points:
[0.          0.24172483 0.76970789 1.          ]
y points:
[0.          0.2248049 0.41845594 0.          ]
d values:
[ 0.79798553  0.30852801 -0.28051205]
      4              5      1.2684e-05      2.33e-06      2.06e-03      2.38e-04
Current map parameters:
x points:
[0.          0.24194316 0.76680877 1.          ]
y points:
[0.00000000e+00 2.29047887e-01 4.18237215e-01 1.49011612e-08]
d values:
[ 0.79830201  0.31122139 -0.28395708]
      5              6      1.0456e-05      2.23e-06      6.76e-03      6.29e-04
Current map parameters:

```

```

x points:
[0.      0.24197398 0.76658163 1.      ]
y points:
[0.      0.22838539 0.41758655 0.      ]
d values:
[ 0.79805871  0.31093842 -0.28415593]
      6          7          9.8790e-06      5.77e-07      1.05e-03      1.00e-04
Current map parameters:
x points:
[0.      0.24274818 0.76331763 1.      ]
y points:
[0.      0.22691032 0.42257688 0.      ]
d values:
[ 0.79708618  0.31541124 -0.28959181]
      7          8          8.5221e-06      1.36e-06      9.43e-03      8.35e-04
Current map parameters:
x points:
[0.      0.24278276 0.76311453 1.      ]
y points:
[0.      0.22605037 0.4218386  0.      ]
d values:
[ 0.79674697  0.31498331 -0.28974909]
      8          9          7.7006e-06      8.21e-07      1.28e-03      1.28e-04
      9         10          6.6042e-06      1.10e-06      1.01e-02      4.57e-04
Current map parameters:
x points:
[0.      0.24350288 0.7621179  1.      ]
y points:
[0.      0.21989249 0.42786413 0.      ]
d values:
[ 0.79303441  0.31735723 -0.29242509]
     10         11          6.3148e-06      2.89e-07      7.26e-04      8.76e-05
Current map parameters:
x points:
[0.      0.24364371 0.76109128 1.      ]
y points:
[0.      0.22082282 0.42860661 0.      ]
d values:
[ 0.79312282  0.31854307 -0.29371694]
     11         12          5.9702e-06      3.45e-07      2.36e-03      3.68e-04
Current map parameters:
x points:
[0.      0.24366734 0.76094608 1.      ]
y points:
[0.      0.220425   0.42822513 0.      ]
d values:
[ 0.79299096  0.31839243 -0.29384018]
     12         13          5.7682e-06      2.02e-07      6.17e-04      6.97e-05

```

Current map parameters:

x points:

[0. 0.24399196 0.75962398 1.]

y points:

[0. 0.21997053 0.43036013 0.]

d values:

[0.79300295 0.32017039 -0.29570534]

13 14 5.4099e-06 3.58e-07 3.64e-03 4.63e-04

Current map parameters:

x points:

[0. 0.2440172 0.75948913 1.]

y points:

[0. 0.21948584 0.42993633 0.]

d values:

[0.7928289 0.31995317 -0.29581024]

14 15 5.1436e-06 2.66e-07 7.22e-04 7.89e-05

Current map parameters:

x points:

[0. 0.244795 0.7576215 1.]

y points:

[0.00000000e+00 2.15446410e-01 4.35667766e-01 1.49011612e-08]

d values:

[0.79134381 0.32303972 -0.29873144]

15 16 4.4790e-06 6.65e-07 8.57e-03 5.71e-04

Current map parameters:

x points:

[0. 0.24482245 0.75744683 1.]

y points:

[0. 0.21492772 0.43508044 0.]

d values:

[0.79118399 0.32275424 -0.29885406]

16 17 4.0728e-06 4.06e-07 8.76e-04 4.37e-05

Current map parameters:

x points:

[0. 0.24548797 0.75423254 1.]

y points:

[0. 0.21448159 0.43738485 0.]

d values:

[0.79138347 0.32587446 -0.30221221]

17 18 3.5521e-06 5.21e-07 6.11e-03 1.34e-04

Current map parameters:

x points:

[0. 0.24568245 0.7543799 1.]

y points:

[0. 0.21195769 0.4389311 0.]

d values:

[0.79025434 0.32588771 -0.30165946]

18 19 3.2817e-06 2.70e-07 3.23e-03 2.64e-04

19	20	3.1863e-06	9.54e-08	1.02e-02	2.59e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.24858385 0.75373793 1.]

y points:

[0. 0.21188862 0.43943527 0.00999481]

d values:

[0.79026462 0.32642393 -0.30044875]

20	21	3.1241e-06	6.22e-08	2.00e-02	2.56e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.25089699 0.75323174 1.]

y points:

[0. 0.21184689 0.43983047 0.00999487]

d values:

[0.79025589 0.32684776 -0.29949115]

21	22	3.0029e-06	1.21e-07	2.62e-03	2.51e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.25205385 0.75298299 1.]

y points:

[0. 0.21183431 0.44002319 -0.00999498]

d values:

[0.79024138 0.32705711 -0.29901817]

22	23	2.9440e-06	5.89e-08	2.00e-02	2.48e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.25436388 0.75248948 1.]

y points:

[0. 0.21181645 0.44040418 -0.00999504]

d values:

[0.79020345 0.32747305 -0.29807806]

23	24	2.8292e-06	1.15e-07	2.60e-03	2.43e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.25552114 0.7522473 1.]

y points:

[0. 0.2118163 0.44058953 0.00999514]

d values:

[0.79017395 0.32767848 -0.29761383]

24	25	2.7733e-06	5.58e-08	2.00e-02	2.40e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

[0. 0.25667767 0.75200716 1.]

y points:

[0. 0.21182003 0.44077256 -0.00999521]

d values:

[0.79013982 0.3278826 -0.29715241]

25	26	2.7185e-06	5.48e-08	2.00e-02	2.38e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

```
[0.      0.25898931 0.75153119 1.      ]
```

y points:

```
[ 0.      0.21183536  0.44113386 -0.00999525]
```

d values:

```
[ 0.79006225  0.32828813 -0.29623544]
```

26	27	2.6117e-06	1.07e-07	2.59e-03	2.33e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

```
[0.      0.26015034 0.7512981  1.      ]
```

y points:

```
[0.      0.21185266 0.44130893 0.00999535]
```

d values:

```
[ 0.79001221  0.32848838 -0.2957828 ]
```

27	28	2.5598e-06	5.19e-08	2.00e-02	2.30e-04
----	----	------------	----------	----------	----------

Current map parameters:

x points:

```
[0.      0.261312  0.75106721 1.      ]
```

y points:

```
[ 0.      0.2118742  0.44148151 -0.0099954 ]
```

d values:

```
[ 0.78995728  0.32868731 -0.29533299]
```

28	29	2.5088e-06	5.10e-08	2.00e-02	2.27e-04
29	30	2.4094e-06	9.94e-08	2.59e-03	2.23e-04

The maximum number of function evaluations is exceeded.

Function evaluations 30, initial cost 1.4466e-02, final cost 2.4094e-06, first-order optimality

```
[ 0.26363674  0.75061004  0.21192593  0.44182151 -0.00999545  0.78983748
 0.3290825  -0.29443918]
```

```
In [25]: print('Approximant:')
         print('x points:')
         x_ap = np.hstack( ([0],sol_FIF_3.x[:2],[1]))
         x_in = np.hstack( ([0],x_new0[:2],[1]))
         print(x_ap )
         print('y points:')
         y_ap = np.hstack( ([0],sol_FIF_3.x[2:5]))
         y_in = np.hstack( ([0],x_new0[2:5]))
         print(y_ap)
         print('d values:')
         d_ap = sol_FIF_3.x[5:]
         d_in = x_new0[5:]
         print(d_ap)

         A_app_3, b_app_3 = ft.inter_gen(x_ap,y_ap,d_ap,inc_a = False)
         A_in_3, b_in_3 = ft.inter_gen(x_in,y_in,d_in,inc_a = False)
```

```

FIF_3_ap = ft.chaos(A_app_3,b_app_3)
FIF_3_ap = FIF_3_ap[FIF_3_ap[:,0].argsort()]

FIF_3_in = ft.chaos(A_in_3,b_in_3)
FIF_3_in = FIF_3_in[FIF_3_in[:,0].argsort()]

```

Approximant:

```

x points:
[0.          0.26363674 0.75061004 1.          ]
y points:
[ 0.          0.21192593  0.44182151 -0.00999545]
d values:
[ 0.78983748  0.3290825  -0.29443918]

```

```

In [28]: from scipy.spatial.distance import directed_hausdorff
def Haus_dist(U,V):

    return max(directed_hausdorff(U,V)[0],directed_hausdorff(V,U)[0])

print('Hausdorff distance: Initial starting point')
print(Haus_dist(FIF_3,FIF_3_in))
print('Hausdorff distance: Approximant')
print(Haus_dist(FIF_3,FIF_3_ap))
plt.figure(figsize = (20,10))
plt.plot(FIF_3[:,0],FIF_3[:,1], label = 'Function')
plt.plot(FIF_3_ap[:,0],FIF_3_ap[:,1], label = 'Approximant')
plt.plot(FIF_3_in[:,0],FIF_3_in[:,1], label = 'Initial Guess')
plt.legend(fontsize = 20)

```

```

Hausdorff distance: Initial starting point
0.19596812906222835
Hausdorff distance: Approximant
0.05899219403658318

```

```

Out[28]: <matplotlib.legend.Legend at 0x212d3981710>

```

