

Метод за решаване на последователни приближения за решаване на СЛАУ

$$A = \begin{pmatrix} 3+b & 1 & 0 \\ 1 & 4+a & 0.2+a \\ 2 & 4 & 6+a+b \end{pmatrix}, b = (a, a-b, b+1)$$

$$\text{In[1]:= } A = \begin{pmatrix} 10 & 1 & 0 \\ 1 & 10 & 6.2 \\ 2 & 4 & 19 \end{pmatrix}; \quad b = \{6, -1, 8\};$$

1. Да се избере итерационен метод за решаването ѝ.
(в случая избираме метода на последователните приближения)

```
In[2]:= n = Length[A];
```

```
In[3]:= IM = IdentityMatrix[n];
```

```
In[4]:= B = IM - A;
```

```
In[5]:= c = b;
```

```
In[6]:= Print["Итерационният процес е  $x^{(k+1)} =$ ", B // MatrixForm, " $. x^{(k)} +$ ", c // MatrixForm]
```

$$\text{Итерационният процес е } x^{(k+1)} = \begin{pmatrix} -9 & -1 & 0 \\ -1 & -9 & -6.2 \\ -2 & -4 & -18 \end{pmatrix} \cdot x^{(k)} + \begin{pmatrix} 6 \\ -1 \\ 8 \end{pmatrix}$$

2. Проверка за сходимост $\|B\| < 1$

първа норма

$$\text{In[7]:= } \text{Max}\left[\text{Table}\left[\sum_{j=1}^n \text{Abs}[B[[i, j]]], \{i, n\}\right]\right]$$

```
Out[7]= 24
```

втора норма

```
In[8]:= Max[Table[Sum[Abs[B[[i, j]]], {j, n}]]
```

```
Out[8]= 24.2
```

трета норма

```
In[9]:= Sqrt[Sum[Sum[B[[i, j]]^2, {j, n}], {i, n}]]
```

```
Out[9]= 23.3761
```

Извод: В случая имаме положително определена матрица и условието за сходимост не е изпълнено. Съответно модифицираме метода

3. Модификация на метода при положително определена матрица A

Проверка на приложимостта на модификацията

```
In[10]:= A = { {10, 1, 0}, {1, 10, 6.2}, {2, 4, 19} };
```

```
In[11]:= PositiveDefiniteMatrixQ[A]
```

```
Out[11]= True
```

Определяне стойността на ρ

```
In[12]:= Norm[A]
```

```
Out[12]= 21.5193
```

```
In[13]:= ro = 200
```

```
Out[13]= 200
```

Итерираме

```

In[14]:= A =  $\begin{pmatrix} 10 & 1 & 0 \\ 1 & 10 & 6.2 \\ 2 & 4 & 19 \end{pmatrix}$ ; b = {6, -1, 8};

n = Length[A];
IM = IdentityMatrix[n];
ro = 200;
B = IM -  $\frac{2}{ro}$  A;
c =  $\frac{2}{ro}$  b;
Print["Итерационният процес е  $x^{(k+1)} =$ ",
  N[B // MatrixForm], ".  $x^{(k)} +$ ", N[c // MatrixForm]]

x = {9, 12,  $\frac{1}{2}$ }; (*изборът на начално приближение е произволен*)

(*изчисляваме нормите според избора на норма,
който сме направили по време на проверка на условието на сходимост*)

normB = Max[Table[ $\sum_{j=1}^n$  Abs[B[[i, j]]], {i, n}]];

Print["Нормата на B е ", N[normB]]
normx0 = Max[Abs[x]];
normc = Max[Abs[c]];
For[k = 0, k ≤ 3, k++,
  Print["k = ", N[k], "  $x^{(k)} =$ ", N[x],
    "  $\epsilon_k =$ ", N[eps = normBk (normx0 +  $\frac{normc}{1 - normB}$ )]];
  x = B.x + c
]
Print["За сравнение, точното решение е ", N[LinearSolve[A, b]]]

Итерационният процес е  $x^{(k+1)} = \begin{pmatrix} 0.9 & -0.01 & 0. \\ -0.01 & 0.9 & -0.062 \\ -0.02 & -0.04 & 0.81 \end{pmatrix} \cdot x^{(k)} + \begin{pmatrix} 0.06 \\ -0.01 \\ 0.08 \end{pmatrix}$ 

Нормата на B е 0.972

k = 0.  $x^{(k)} = \{9., 12., 0.5\}$   $\epsilon_k = 14.8571$ 
k = 1.  $x^{(k)} = \{8.04, 10.669, -0.175\}$   $\epsilon_k = 14.4411$ 
k = 2.  $x^{(k)} = \{7.18931, 9.52255, -0.64931\}$   $\epsilon_k = 14.0368$ 
k = 3.  $x^{(k)} = \{6.43515, 8.52866, -0.970629\}$   $\epsilon_k = 13.6438$ 
За сравнение, точното решение е {0.644099, -0.440987, 0.446092}

```

4. Какъв е минималния брой итерации, които са
 нужни за достигане на точност 10^{-4} , работейки по

избрания метод при избор на начално приближение $x(0) = c$?

$$\text{In}[28]:= \frac{\text{Log}\left[\frac{10^{-12}}{\text{normx0} + \frac{\text{normc}}{1 - \text{normB}}}\right]}{\text{Log}[\text{normB}]}$$

Out[28]= 1067.96

Извод: Необходими са ни 1068 итерации за достигане на исканата точност.

Итериране

$$\text{In}[29]:= A = \begin{pmatrix} 10 & 1 & 0 \\ 1 & 10 & 6.2 \\ 2 & 4 & 19 \end{pmatrix}; \quad b = \{6, -1, 8\};$$

```
n = Length[A];
```

```
IM = IdentityMatrix[n];
```

```
ro = 200;
```

```
B = IM - \frac{2}{ro} A;
```

```
c = \frac{2}{ro} b;
```

```
Print["Итерационният процес е  $x^{(k+1)} =$  ",
```

```
  N[B // MatrixForm], ".  $x^{(k)}$  + ", N[c // MatrixForm]]
```

```
x = {9, 12, \frac{1}{2}}; (*изборът на начално приближение е произволен*)
```

```
(*изчисляваме нормите според избора на норма,
```

```
който сме направили по време на проверка на условието на сходимост*)
```

```
normB = Max[Table[\sum_{j=1}^n Abs[B[[i, j]]], {i, n}]];
```

```
Print["Нормата на B е ", N[normB]]
```

```
normx0 = Max[Abs[x]];
```

```
normc = Max[Abs[c]];
```

```
For[k = 0, k ≤ 1068, k++,
```

```
  Print["k = ", N[k], "  $x^{(k)}$  = ", N[x],
```

```
    "  $\epsilon_k$  = ", N[eps = normB^k \left( normx0 + \frac{normc}{1 - normB} \right)]];]
```

```
x = B.x + c
```

```
]
```

```
Print["За сравнение, точното решение е ", N[LinearSolve[A, b]]]
```

$$\text{Итерационният процес е } x^{(k+1)} = \begin{pmatrix} 0.9 & -0.01 & 0. \\ -0.01 & 0.9 & -0.062 \\ -0.02 & -0.04 & 0.81 \end{pmatrix} \cdot x^{(k)} + \begin{pmatrix} 0.06 \\ -0.01 \\ 0.08 \end{pmatrix}$$

Нормата на B е 0.972

$k = 0. \mathbf{x}^{(k)} = \{9., 12., 0.5\} \quad \varepsilon_k = 14.8571$
 $k = 1. \mathbf{x}^{(k)} = \{8.04, 10.669, -0.175\} \quad \varepsilon_k = 14.4411$
 $k = 2. \mathbf{x}^{(k)} = \{7.18931, 9.52255, -0.64931\} \quad \varepsilon_k = 14.0368$
 $k = 3. \mathbf{x}^{(k)} = \{6.43515, 8.52866, -0.970629\} \quad \varepsilon_k = 13.6438$
 $k = 4. \mathbf{x}^{(k)} = \{5.76635, 7.66162, -1.17606\} \quad \varepsilon_k = 13.2617$
 $k = 5. \mathbf{x}^{(k)} = \{5.1731, 6.90071, -1.2944\} \quad \varepsilon_k = 12.8904$
 $k = 6. \mathbf{x}^{(k)} = \{4.64678, 6.22916, -1.34795\} \quad \varepsilon_k = 12.5295$
 $k = 7. \mathbf{x}^{(k)} = \{4.17981, 5.63335, -1.35395\} \quad \varepsilon_k = 12.1787$
 $k = 8. \mathbf{x}^{(k)} = \{3.7655, 5.10216, -1.32563\} \quad \varepsilon_k = 11.8376$
 $k = 9. \mathbf{x}^{(k)} = \{3.39793, 4.62648, -1.27315\} \quad \varepsilon_k = 11.5062$
 $k = 10. \mathbf{x}^{(k)} = \{3.07187, 4.19879, -1.20427\} \quad \varepsilon_k = 11.184$
 $k = 11. \mathbf{x}^{(k)} = \{2.78269, 3.81286, -1.12485\} \quad \varepsilon_k = 10.8709$
 $k = 12. \mathbf{x}^{(k)} = \{2.5263, 3.46348, -1.0393\} \quad \varepsilon_k = 10.5665$
 $k = 13. \mathbf{x}^{(k)} = \{2.29903, 3.14631, -0.950895\} \quad \varepsilon_k = 10.2706$
 $k = 14. \mathbf{x}^{(k)} = \{2.09767, 2.85764, -0.862058\} \quad \varepsilon_k = 9.98304$
 $k = 15. \mathbf{x}^{(k)} = \{1.91932, 2.59435, -0.774526\} \quad \varepsilon_k = 9.70352$
 $k = 16. \mathbf{x}^{(k)} = \{1.76145, 2.35374, -0.689526\} \quad \varepsilon_k = 9.43182$
 $k = 17. \mathbf{x}^{(k)} = \{1.62176, 2.1335, -0.607895\} \quad \varepsilon_k = 9.16773$
 $k = 18. \mathbf{x}^{(k)} = \{1.49825, 1.93163, -0.53017\} \quad \varepsilon_k = 8.91103$
 $k = 19. \mathbf{x}^{(k)} = \{1.38911, 1.74635, -0.456668\} \quad \varepsilon_k = 8.66152$
 $k = 20. \mathbf{x}^{(k)} = \{1.29274, 1.57614, -0.387537\} \quad \varepsilon_k = 8.419$
 $k = 21. \mathbf{x}^{(k)} = \{1.2077, 1.41962, -0.322806\} \quad \varepsilon_k = 8.18327$
 $k = 22. \mathbf{x}^{(k)} = \{1.13274, 1.2756, -0.262412\} \quad \varepsilon_k = 7.95414$
 $k = 23. \mathbf{x}^{(k)} = \{1.06671, 1.14298, -0.206232\} \quad \varepsilon_k = 7.73142$
 $k = 24. \mathbf{x}^{(k)} = \{1.00861, 1.0208, -0.154101\} \quad \varepsilon_k = 7.51494$
 $k = 25. \mathbf{x}^{(k)} = \{0.957537, 0.90819, -0.105826\} \quad \varepsilon_k = 7.30452$
 $k = 26. \mathbf{x}^{(k)} = \{0.912701, 0.804357, -0.0611976\} \quad \varepsilon_k = 7.1$
 $k = 27. \mathbf{x}^{(k)} = \{0.873388, 0.708589, -0.0199984\} \quad \varepsilon_k = 6.9012$
 $k = 28. \mathbf{x}^{(k)} = \{0.838963, 0.620236, 0.01799\} \quad \varepsilon_k = 6.70796$
 $k = 29. \mathbf{x}^{(k)} = \{0.808864, 0.538707, 0.0529832\} \quad \varepsilon_k = 6.52014$
 $k = 30. \mathbf{x}^{(k)} = \{0.782591, 0.463463, 0.0851908\} \quad \varepsilon_k = 6.33758$
 $k = 31. \mathbf{x}^{(k)} = \{0.759697, 0.394009, 0.114814\} \quad \varepsilon_k = 6.16012$
 $k = 32. \mathbf{x}^{(k)} = \{0.739787, 0.329892, 0.142045\} \quad \varepsilon_k = 5.98764$
 $k = 33. \mathbf{x}^{(k)} = \{0.72251, 0.270699, 0.167065\} \quad \varepsilon_k = 5.81999$
 $k = 34. \mathbf{x}^{(k)} = \{0.707552, 0.216046, 0.190045\} \quad \varepsilon_k = 5.65703$
 $k = 35. \mathbf{x}^{(k)} = \{0.694636, 0.165583, 0.211143\} \quad \varepsilon_k = 5.49863$
 $k = 36. \mathbf{x}^{(k)} = \{0.683517, 0.118987, 0.23051\} \quad \varepsilon_k = 5.34467$
 $k = 37. \mathbf{x}^{(k)} = \{0.673975, 0.0759617, 0.248283\} \quad \varepsilon_k = 5.19502$

$k = 38. \ x^{(k)} = \{0.665818, 0.0362322, 0.264592\} \ \varepsilon_k = 5.04956$
 $k = 39. \ x^{(k)} = \{0.658874, -0.000453871, 0.279553\} \ \varepsilon_k = 4.90817$
 $k = 40. \ x^{(k)} = \{0.652991, -0.0343295, 0.293279\} \ \varepsilon_k = 4.77074$
 $k = 41. \ x^{(k)} = \{0.648035, -0.0656098, 0.305869\} \ \varepsilon_k = 4.63716$
 $k = 42. \ x^{(k)} = \{0.643888, -0.0944931, 0.317418\} \ \varepsilon_k = 4.50732$
 $k = 43. \ x^{(k)} = \{0.640444, -0.121163, 0.32801\} \ \varepsilon_k = 4.38112$
 $k = 44. \ x^{(k)} = \{0.637611, -0.145787, 0.337726\} \ \varepsilon_k = 4.25844$
 $k = 45. \ x^{(k)} = \{0.635308, -0.168524, 0.346637\} \ \varepsilon_k = 4.13921$
 $k = 46. \ x^{(k)} = \{0.633462, -0.189516, 0.354811\} \ \varepsilon_k = 4.02331$
 $k = 47. \ x^{(k)} = \{0.632011, -0.208897, 0.362308\} \ \varepsilon_k = 3.91066$
 $k = 48. \ x^{(k)} = \{0.630899, -0.226791, 0.369185\} \ \varepsilon_k = 3.80116$
 $k = 49. \ x^{(k)} = \{0.630077, -0.24331, 0.375494\} \ \varepsilon_k = 3.69473$
 $k = 50. \ x^{(k)} = \{0.629503, -0.258561, 0.381281\} \ \varepsilon_k = 3.59127$
 $k = 51. \ x^{(k)} = \{0.629138, -0.272639, 0.38659\} \ \varepsilon_k = 3.49072$
 $k = 52. \ x^{(k)} = \{0.62895, -0.285635, 0.391461\} \ \varepsilon_k = 3.39298$
 $k = 53. \ x^{(k)} = \{0.628912, -0.297632, 0.395929\} \ \varepsilon_k = 3.29797$
 $k = 54. \ x^{(k)} = \{0.628997, -0.308705, 0.40003\} \ \varepsilon_k = 3.20563$
 $k = 55. \ x^{(k)} = \{0.629184, -0.318926, 0.403792\} \ \varepsilon_k = 3.11587$
 $k = 56. \ x^{(k)} = \{0.629455, -0.328361, 0.407245\} \ \varepsilon_k = 3.02863$
 $k = 57. \ x^{(k)} = \{0.629793, -0.337068, 0.410414\} \ \varepsilon_k = 2.94383$
 $k = 58. \ x^{(k)} = \{0.630185, -0.345105, 0.413322\} \ \varepsilon_k = 2.8614$
 $k = 59. \ x^{(k)} = \{0.630617, -0.352523, 0.415992\} \ \varepsilon_k = 2.78128$
 $k = 60. \ x^{(k)} = \{0.631081, -0.359368, 0.418442\} \ \varepsilon_k = 2.70341$
 $k = 61. \ x^{(k)} = \{0.631566, -0.365685, 0.420691\} \ \varepsilon_k = 2.62771$
 $k = 62. \ x^{(k)} = \{0.632067, -0.371515, 0.422756\} \ \varepsilon_k = 2.55413$
 $k = 63. \ x^{(k)} = \{0.632575, -0.376895, 0.424651\} \ \varepsilon_k = 2.48262$
 $k = 64. \ x^{(k)} = \{0.633086, -0.38186, 0.426392\} \ \varepsilon_k = 2.41311$
 $k = 65. \ x^{(k)} = \{0.633596, -0.386441, 0.42799\} \ \varepsilon_k = 2.34554$
 $k = 66. \ x^{(k)} = \{0.634101, -0.390668, 0.429458\} \ \varepsilon_k = 2.27986$
 $k = 67. \ x^{(k)} = \{0.634598, -0.394569, 0.430805\} \ \varepsilon_k = 2.21603$
 $k = 68. \ x^{(k)} = \{0.635084, -0.398168, 0.432043\} \ \varepsilon_k = 2.15398$
 $k = 69. \ x^{(k)} = \{0.635557, -0.401489, 0.43318\} \ \varepsilon_k = 2.09367$
 $k = 70. \ x^{(k)} = \{0.636016, -0.404552, 0.434224\} \ \varepsilon_k = 2.03504$
 $k = 71. \ x^{(k)} = \{0.63646, -0.407379, 0.435183\} \ \varepsilon_k = 1.97806$
 $k = 72. \ x^{(k)} = \{0.636888, -0.409987, 0.436065\} \ \varepsilon_k = 1.92268$
 $k = 73. \ x^{(k)} = \{0.637299, -0.412394, 0.436874\} \ \varepsilon_k = 1.86884$
 $k = 74. \ x^{(k)} = \{0.637693, -0.414613, 0.437618\} \ \varepsilon_k = 1.81651$
 $k = 75. \ x^{(k)} = \{0.63807, -0.416661, 0.438301\} \ \varepsilon_k = 1.76565$

$k = 76. \ x^{(k)} = \{0.638429, -0.41855, 0.438929\} \ \varepsilon_k = 1.71621$
 $k = 77. \ x^{(k)} = \{0.638772, -0.420293, 0.439506\} \ \varepsilon_k = 1.66816$
 $k = 78. \ x^{(k)} = \{0.639098, -0.421901, 0.440036\} \ \varepsilon_k = 1.62145$
 $k = 79. \ x^{(k)} = \{0.639407, -0.423384, 0.440523\} \ \varepsilon_k = 1.57605$
 $k = 80. \ x^{(k)} = \{0.6397, -0.424752, 0.440971\} \ \varepsilon_k = 1.53192$
 $k = 81. \ x^{(k)} = \{0.639978, -0.426014, 0.441383\} \ \varepsilon_k = 1.48903$
 $k = 82. \ x^{(k)} = \{0.64024, -0.427178, 0.441761\} \ \varepsilon_k = 1.44733$
 $k = 83. \ x^{(k)} = \{0.640488, -0.428252, 0.442109\} \ \varepsilon_k = 1.40681$
 $k = 84. \ x^{(k)} = \{0.640722, -0.429242, 0.442428\} \ \varepsilon_k = 1.36742$
 $k = 85. \ x^{(k)} = \{0.640942, -0.430156, 0.442722\} \ \varepsilon_k = 1.32913$
 $k = 86. \ x^{(k)} = \{0.641149, -0.430999, 0.442992\} \ \varepsilon_k = 1.29192$
 $k = 87. \ x^{(k)} = \{0.641344, -0.431776, 0.443241\} \ \varepsilon_k = 1.25574$
 $k = 88. \ x^{(k)} = \{0.641528, -0.432493, 0.443469\} \ \varepsilon_k = 1.22058$
 $k = 89. \ x^{(k)} = \{0.6417, -0.433154, 0.443679\} \ \varepsilon_k = 1.1864$
 $k = 90. \ x^{(k)} = \{0.641861, -0.433763, 0.443872\} \ \varepsilon_k = 1.15319$
 $k = 91. \ x^{(k)} = \{0.642013, -0.434326, 0.44405\} \ \varepsilon_k = 1.1209$
 $k = 92. \ x^{(k)} = \{0.642155, -0.434844, 0.444213\} \ \varepsilon_k = 1.08951$
 $k = 93. \ x^{(k)} = \{0.642288, -0.435323, 0.444363\} \ \varepsilon_k = 1.059$
 $k = 94. \ x^{(k)} = \{0.642412, -0.435764, 0.444501\} \ \varepsilon_k = 1.02935$
 $k = 95. \ x^{(k)} = \{0.642529, -0.436171, 0.444629\} \ \varepsilon_k = 1.00053$
 $k = 96. \ x^{(k)} = \{0.642637, -0.436546, 0.444745\} \ \varepsilon_k = 0.972516$
 $k = 97. \ x^{(k)} = \{0.642739, -0.436892, 0.444853\} \ \varepsilon_k = 0.945286$
 $k = 98. \ x^{(k)} = \{0.642834, -0.437211, 0.444952\} \ \varepsilon_k = 0.918818$
 $k = 99. \ x^{(k)} = \{0.642923, -0.437505, 0.445043\} \ \varepsilon_k = 0.893091$
 $k = 100. \ x^{(k)} = \{0.643006, -0.437777, 0.445126\} \ \varepsilon_k = 0.868084$
 $k = 101. \ x^{(k)} = \{0.643083, -0.438027, 0.445203\} \ \varepsilon_k = 0.843778$
 $k = 102. \ x^{(k)} = \{0.643155, -0.438258, 0.445274\} \ \varepsilon_k = 0.820152$
 $k = 103. \ x^{(k)} = \{0.643222, -0.43847, 0.445339\} \ \varepsilon_k = 0.797188$
 $k = 104. \ x^{(k)} = \{0.643284, -0.438667, 0.445399\} \ \varepsilon_k = 0.774866$
 $k = 105. \ x^{(k)} = \{0.643343, -0.438847, 0.445454\} \ \varepsilon_k = 0.75317$
 $k = 106. \ x^{(k)} = \{0.643397, -0.439014, 0.445505\} \ \varepsilon_k = 0.732081$
 $k = 107. \ x^{(k)} = \{0.643447, -0.439168, 0.445552\} \ \varepsilon_k = 0.711583$
 $k = 108. \ x^{(k)} = \{0.643494, -0.43931, 0.445595\} \ \varepsilon_k = 0.691659$
 $k = 109. \ x^{(k)} = \{0.643538, -0.439441, 0.445634\} \ \varepsilon_k = 0.672292$
 $k = 110. \ x^{(k)} = \{0.643579, -0.439561, 0.445671\} \ \varepsilon_k = 0.653468$
 $k = 111. \ x^{(k)} = \{0.643616, -0.439673, 0.445704\} \ \varepsilon_k = 0.635171$
 $k = 112. \ x^{(k)} = \{0.643651, -0.439775, 0.445735\} \ \varepsilon_k = 0.617386$
 $k = 113. \ x^{(k)} = \{0.643684, -0.43987, 0.445763\} \ \varepsilon_k = 0.600099$

$k = 114. \ x^{(k)} = \{0.643714, -0.439957, 0.445789\} \ \varepsilon_k = 0.583297$
 $k = 115. \ x^{(k)} = \{0.643742, -0.440037, 0.445813\} \ \varepsilon_k = 0.566964$
 $k = 116. \ x^{(k)} = \{0.643769, -0.440111, 0.445835\} \ \varepsilon_k = 0.551089$
 $k = 117. \ x^{(k)} = \{0.643793, -0.44018, 0.445856\} \ \varepsilon_k = 0.535659$
 $k = 118. \ x^{(k)} = \{0.643815, -0.440243, 0.445875\} \ \varepsilon_k = 0.52066$
 $k = 119. \ x^{(k)} = \{0.643836, -0.440301, 0.445892\} \ \varepsilon_k = 0.506082$
 $k = 120. \ x^{(k)} = \{0.643856, -0.440354, 0.445908\} \ \varepsilon_k = 0.491912$
 $k = 121. \ x^{(k)} = \{0.643874, -0.440404, 0.445922\} \ \varepsilon_k = 0.478138$
 $k = 122. \ x^{(k)} = \{0.64389, -0.440449, 0.445936\} \ \varepsilon_k = 0.46475$
 $k = 123. \ x^{(k)} = \{0.643906, -0.440491, 0.445948\} \ \varepsilon_k = 0.451737$
 $k = 124. \ x^{(k)} = \{0.64392, -0.44053, 0.445959\} \ \varepsilon_k = 0.439089$
 $k = 125. \ x^{(k)} = \{0.643933, -0.440566, 0.44597\} \ \varepsilon_k = 0.426794$
 $k = 126. \ x^{(k)} = \{0.643946, -0.440599, 0.44598\} \ \varepsilon_k = 0.414844$
 $k = 127. \ x^{(k)} = \{0.643957, -0.440629, 0.445989\} \ \varepsilon_k = 0.403228$
 $k = 128. \ x^{(k)} = \{0.643968, -0.440657, 0.445997\} \ \varepsilon_k = 0.391938$
 $k = 129. \ x^{(k)} = \{0.643977, -0.440683, 0.446004\} \ \varepsilon_k = 0.380964$
 $k = 130. \ x^{(k)} = \{0.643987, -0.440706, 0.446011\} \ \varepsilon_k = 0.370297$
 $k = 131. \ x^{(k)} = \{0.643995, -0.440728, 0.446018\} \ \varepsilon_k = 0.359928$
 $k = 132. \ x^{(k)} = \{0.644003, -0.440749, 0.446024\} \ \varepsilon_k = 0.34985$
 $k = 133. \ x^{(k)} = \{0.64401, -0.440767, 0.446029\} \ \varepsilon_k = 0.340055$
 $k = 134. \ x^{(k)} = \{0.644017, -0.440784, 0.446034\} \ \varepsilon_k = 0.330533$
 $k = 135. \ x^{(k)} = \{0.644023, -0.4408, 0.446039\} \ \varepsilon_k = 0.321278$
 $k = 136. \ x^{(k)} = \{0.644029, -0.440815, 0.446043\} \ \varepsilon_k = 0.312282$
 $k = 137. \ x^{(k)} = \{0.644034, -0.440828, 0.446047\} \ \varepsilon_k = 0.303538$
 $k = 138. \ x^{(k)} = \{0.644039, -0.440841, 0.44605\} \ \varepsilon_k = 0.295039$
 $k = 139. \ x^{(k)} = \{0.644043, -0.440852, 0.446054\} \ \varepsilon_k = 0.286778$
 $k = 140. \ x^{(k)} = \{0.644047, -0.440863, 0.446057\} \ \varepsilon_k = 0.278748$
 $k = 141. \ x^{(k)} = \{0.644051, -0.440872, 0.446059\} \ \varepsilon_k = 0.270943$
 $k = 142. \ x^{(k)} = \{0.644055, -0.440881, 0.446062\} \ \varepsilon_k = 0.263357$
 $k = 143. \ x^{(k)} = \{0.644058, -0.44089, 0.446064\} \ \varepsilon_k = 0.255983$
 $k = 144. \ x^{(k)} = \{0.644061, -0.440897, 0.446067\} \ \varepsilon_k = 0.248816$
 $k = 145. \ x^{(k)} = \{0.644064, -0.440904, 0.446069\} \ \varepsilon_k = 0.241849$
 $k = 146. \ x^{(k)} = \{0.644067, -0.440911, 0.44607\} \ \varepsilon_k = 0.235077$
 $k = 147. \ x^{(k)} = \{0.644069, -0.440917, 0.446072\} \ \varepsilon_k = 0.228495$
 $k = 148. \ x^{(k)} = \{0.644071, -0.440922, 0.446074\} \ \varepsilon_k = 0.222097$
 $k = 149. \ x^{(k)} = \{0.644074, -0.440927, 0.446075\} \ \varepsilon_k = 0.215878$
 $k = 150. \ x^{(k)} = \{0.644075, -0.440932, 0.446077\} \ \varepsilon_k = 0.209834$
 $k = 151. \ x^{(k)} = \{0.644077, -0.440936, 0.446078\} \ \varepsilon_k = 0.203958$

$k = 152. \ x^{(k)} = \{0.644079, -0.44094, 0.446079\} \ \varepsilon_k = 0.198247$
 $k = 153. \ x^{(k)} = \{0.64408, -0.440944, 0.44608\} \ \varepsilon_k = 0.192697$
 $k = 154. \ x^{(k)} = \{0.644082, -0.440947, 0.446081\} \ \varepsilon_k = 0.187301$
 $k = 155. \ x^{(k)} = \{0.644083, -0.44095, 0.446082\} \ \varepsilon_k = 0.182057$
 $k = 156. \ x^{(k)} = \{0.644084, -0.440953, 0.446083\} \ \varepsilon_k = 0.176959$
 $k = 157. \ x^{(k)} = \{0.644085, -0.440956, 0.446083\} \ \varepsilon_k = 0.172004$
 $k = 158. \ x^{(k)} = \{0.644086, -0.440958, 0.446084\} \ \varepsilon_k = 0.167188$
 $k = 159. \ x^{(k)} = \{0.644087, -0.440961, 0.446085\} \ \varepsilon_k = 0.162507$
 $k = 160. \ x^{(k)} = \{0.644088, -0.440963, 0.446085\} \ \varepsilon_k = 0.157957$
 $k = 161. \ x^{(k)} = \{0.644089, -0.440964, 0.446086\} \ \varepsilon_k = 0.153534$
 $k = 162. \ x^{(k)} = \{0.64409, -0.440966, 0.446086\} \ \varepsilon_k = 0.149235$
 $k = 163. \ x^{(k)} = \{0.64409, -0.440968, 0.446087\} \ \varepsilon_k = 0.145056$
 $k = 164. \ x^{(k)} = \{0.644091, -0.440969, 0.446087\} \ \varepsilon_k = 0.140995$
 $k = 165. \ x^{(k)} = \{0.644092, -0.440971, 0.446088\} \ \varepsilon_k = 0.137047$
 $k = 166. \ x^{(k)} = \{0.644092, -0.440972, 0.446088\} \ \varepsilon_k = 0.13321$
 $k = 167. \ x^{(k)} = \{0.644093, -0.440973, 0.446088\} \ \varepsilon_k = 0.12948$
 $k = 168. \ x^{(k)} = \{0.644093, -0.440974, 0.446089\} \ \varepsilon_k = 0.125854$
 $k = 169. \ x^{(k)} = \{0.644094, -0.440975, 0.446089\} \ \varepsilon_k = 0.12233$
 $k = 170. \ x^{(k)} = \{0.644094, -0.440976, 0.446089\} \ \varepsilon_k = 0.118905$
 $k = 171. \ x^{(k)} = \{0.644094, -0.440977, 0.446089\} \ \varepsilon_k = 0.115576$
 $k = 172. \ x^{(k)} = \{0.644095, -0.440978, 0.44609\} \ \varepsilon_k = 0.11234$
 $k = 173. \ x^{(k)} = \{0.644095, -0.440979, 0.44609\} \ \varepsilon_k = 0.109194$
 $k = 174. \ x^{(k)} = \{0.644095, -0.440979, 0.44609\} \ \varepsilon_k = 0.106137$
 $k = 175. \ x^{(k)} = \{0.644096, -0.44098, 0.44609\} \ \varepsilon_k = 0.103165$
 $k = 176. \ x^{(k)} = \{0.644096, -0.44098, 0.44609\} \ \varepsilon_k = 0.100276$
 $k = 177. \ x^{(k)} = \{0.644096, -0.440981, 0.44609\} \ \varepsilon_k = 0.0974685$
 $k = 178. \ x^{(k)} = \{0.644096, -0.440981, 0.446091\} \ \varepsilon_k = 0.0947394$
 $k = 179. \ x^{(k)} = \{0.644096, -0.440982, 0.446091\} \ \varepsilon_k = 0.0920867$
 $k = 180. \ x^{(k)} = \{0.644097, -0.440982, 0.446091\} \ \varepsilon_k = 0.0895082$
 $k = 181. \ x^{(k)} = \{0.644097, -0.440983, 0.446091\} \ \varepsilon_k = 0.087002$
 $k = 182. \ x^{(k)} = \{0.644097, -0.440983, 0.446091\} \ \varepsilon_k = 0.0845659$
 $k = 183. \ x^{(k)} = \{0.644097, -0.440983, 0.446091\} \ \varepsilon_k = 0.0821981$
 $k = 184. \ x^{(k)} = \{0.644097, -0.440984, 0.446091\} \ \varepsilon_k = 0.0798966$
 $k = 185. \ x^{(k)} = \{0.644097, -0.440984, 0.446091\} \ \varepsilon_k = 0.0776595$
 $k = 186. \ x^{(k)} = \{0.644097, -0.440984, 0.446091\} \ \varepsilon_k = 0.075485$
 $k = 187. \ x^{(k)} = \{0.644097, -0.440984, 0.446091\} \ \varepsilon_k = 0.0733714$
 $k = 188. \ x^{(k)} = \{0.644098, -0.440985, 0.446091\} \ \varepsilon_k = 0.071317$
 $k = 189. \ x^{(k)} = \{0.644098, -0.440985, 0.446091\} \ \varepsilon_k = 0.0693201$

$$\begin{aligned}
k = 190. \quad x^{(k)} &= \{0.644098, -0.440985, 0.446092\} \quad \varepsilon_k = 0.0673792 \\
k = 191. \quad x^{(k)} &= \{0.644098, -0.440985, 0.446092\} \quad \varepsilon_k = 0.0654925 \\
k = 192. \quad x^{(k)} &= \{0.644098, -0.440985, 0.446092\} \quad \varepsilon_k = 0.0636588 \\
k = 193. \quad x^{(k)} &= \{0.644098, -0.440985, 0.446092\} \quad \varepsilon_k = 0.0618763 \\
k = 194. \quad x^{(k)} &= \{0.644098, -0.440985, 0.446092\} \quad \varepsilon_k = 0.0601438 \\
k = 195. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0584598 \\
k = 196. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0568229 \\
k = 197. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0552318 \\
k = 198. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0536853 \\
k = 199. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0521822 \\
k = 200. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0507211 \\
k = 201. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0493009 \\
k = 202. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0479204 \\
k = 203. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0465787 \\
k = 204. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0452745 \\
k = 205. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0440068 \\
k = 206. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0427746 \\
k = 207. \quad x^{(k)} &= \{0.644098, -0.440986, 0.446092\} \quad \varepsilon_k = 0.0415769 \\
k = 208. \quad x^{(k)} &= \{0.644098, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0404127 \\
k = 209. \quad x^{(k)} &= \{0.644098, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0392812 \\
k = 210. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0381813 \\
k = 211. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0371122 \\
k = 212. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0360731 \\
k = 213. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0350631 \\
k = 214. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0340813 \\
k = 215. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.033127 \\
k = 216. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0321995 \\
k = 217. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0312979 \\
k = 218. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0304215 \\
k = 219. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0295697 \\
k = 220. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0287418 \\
k = 221. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.027937 \\
k = 222. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0271548 \\
k = 223. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0263944 \\
k = 224. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0256554 \\
k = 225. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.024937 \\
k = 226. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0242388 \\
k = 227. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0235601
\end{aligned}$$

$k = 228. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0229004$
 $k = 229. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0222592$
 $k = 230. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.021636$
 $k = 231. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0210302$
 $k = 232. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0204413$
 $k = 233. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.019869$
 $k = 234. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0193126$
 $k = 235. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0187719$
 $k = 236. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0182463$
 $k = 237. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0177354$
 $k = 238. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0172388$
 $k = 239. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0167561$
 $k = 240. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0162869$
 $k = 241. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0158309$
 $k = 242. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0153876$
 $k = 243. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0149568$
 $k = 244. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.014538$
 $k = 245. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0141309$
 $k = 246. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0137352$
 $k = 247. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0133507$
 $k = 248. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0129768$
 $k = 249. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0126135$
 $k = 250. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0122603$
 $k = 251. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.011917$
 $k = 252. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0115833$
 $k = 253. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.011259$
 $k = 254. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0109438$
 $k = 255. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0106373$
 $k = 256. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0103395$
 $k = 257. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.01005$
 $k = 258. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00976858$
 $k = 259. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00949506$
 $k = 260. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0092292$
 $k = 261. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00897078$
 $k = 262. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0087196$
 $k = 263. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00847545$
 $k = 264. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00823814$
 $k = 265. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00800747$

$k = 266. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00778326$
 $k = 267. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00756533$
 $k = 268. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0073535$
 $k = 269. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00714761$
 $k = 270. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00694747$
 $k = 271. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00675294$
 $k = 272. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00656386$
 $k = 273. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00638007$
 $k = 274. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00620143$
 $k = 275. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00602779$
 $k = 276. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00585901$
 $k = 277. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00569496$
 $k = 278. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0055355$
 $k = 279. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00538051$
 $k = 280. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00522985$
 $k = 281. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00508342$
 $k = 282. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00494108$
 $k = 283. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00480273$
 $k = 284. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00466825$
 $k = 285. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00453754$
 $k = 286. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00441049$
 $k = 287. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.004287$
 $k = 288. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00416696$
 $k = 289. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00405029$
 $k = 290. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00393688$
 $k = 291. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00382665$
 $k = 292. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0037195$
 $k = 293. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00361535$
 $k = 294. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00351412$
 $k = 295. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00341573$
 $k = 296. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00332009$
 $k = 297. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00322713$
 $k = 298. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00313677$
 $k = 299. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00304894$
 $k = 300. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00296357$
 $k = 301. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00288059$
 $k = 302. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00279993$
 $k = 303. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00272153$

$k = 304. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00264533$
 $k = 305. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00257126$
 $k = 306. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.00249927$
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 $k = 484. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.000015937$
 $k = 485. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000154908$
 $k = 486. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000150571$
 $k = 487. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000146355$
 $k = 488. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000142257$
 $k = 489. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000138273$
 $k = 490. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000134402$
 $k = 491. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000130639$
 $k = 492. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000126981$
 $k = 493. \ x^{(k)} = \{0.644099, -0.440987, 0.446092\} \ \varepsilon_k = 0.0000123425$

$$\begin{aligned}
k = 494. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000119969 \\
k = 495. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.000011661 \\
k = 496. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000113345 \\
k = 497. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000110171 \\
k = 498. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000107087 \\
k = 499. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000104088 \\
k = 500. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 0.0000101174 \\
k = 501. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.83409 \times 10^{-6} \\
k = 502. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.55873 \times 10^{-6} \\
k = 503. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.29109 \times 10^{-6} \\
k = 504. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.03094 \times 10^{-6} \\
k = 505. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.77807 \times 10^{-6} \\
k = 506. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.53228 \times 10^{-6} \\
k = 507. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.29338 \times 10^{-6} \\
k = 508. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.06117 \times 10^{-6} \\
k = 509. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.83545 \times 10^{-6} \\
k = 510. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.61606 \times 10^{-6} \\
k = 511. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.40281 \times 10^{-6} \\
k = 512. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.19553 \times 10^{-6} \\
k = 513. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.99406 \times 10^{-6} \\
k = 514. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.79822 \times 10^{-6} \\
k = 515. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.60787 \times 10^{-6} \\
k = 516. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.42285 \times 10^{-6} \\
k = 517. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.24301 \times 10^{-6} \\
k = 518. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.06821 \times 10^{-6} \\
k = 519. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.8983 \times 10^{-6} \\
k = 520. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.73315 \times 10^{-6} \\
k = 521. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.57262 \times 10^{-6} \\
k = 522. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.41659 \times 10^{-6} \\
k = 523. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.26492 \times 10^{-6} \\
k = 524. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.1175 \times 10^{-6} \\
k = 525. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.97421 \times 10^{-6} \\
k = 526. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.83494 \times 10^{-6} \\
k = 527. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.69956 \times 10^{-6} \\
k = 528. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.56797 \times 10^{-6} \\
k = 529. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.44007 \times 10^{-6} \\
k = 530. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.31574 \times 10^{-6} \\
k = 531. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.1949 \times 10^{-6}
\end{aligned}$$

$$\begin{aligned}
k = 532. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.07745 \times 10^{-6} \\
k = 533. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.96328 \times 10^{-6} \\
k = 534. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.85231 \times 10^{-6} \\
k = 535. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.74444 \times 10^{-6} \\
k = 536. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.6396 \times 10^{-6} \\
k = 537. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.53769 \times 10^{-6} \\
k = 538. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.43863 \times 10^{-6} \\
k = 539. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.34235 \times 10^{-6} \\
k = 540. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.24877 \times 10^{-6} \\
k = 541. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.1578 \times 10^{-6} \\
k = 542. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.06938 \times 10^{-6} \\
k = 543. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.98344 \times 10^{-6} \\
k = 544. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.8999 \times 10^{-6} \\
k = 545. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.81871 \times 10^{-6} \\
k = 546. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.73978 \times 10^{-6} \\
k = 547. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.66307 \times 10^{-6} \\
k = 548. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.5885 \times 10^{-6} \\
k = 549. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.51602 \times 10^{-6} \\
k = 550. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.44558 \times 10^{-6} \\
k = 551. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.3771 \times 10^{-6} \\
k = 552. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.31054 \times 10^{-6} \\
k = 553. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.24585 \times 10^{-6} \\
k = 554. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.18296 \times 10^{-6} \\
k = 555. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.12184 \times 10^{-6} \\
k = 556. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.06243 \times 10^{-6} \\
k = 557. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.00468 \times 10^{-6} \\
k = 558. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.94855 \times 10^{-6} \\
k = 559. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.89399 \times 10^{-6} \\
k = 560. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.84096 \times 10^{-6} \\
k = 561. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.78941 \times 10^{-6} \\
k = 562. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.73931 \times 10^{-6} \\
k = 563. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.69061 \times 10^{-6} \\
k = 564. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.64327 \times 10^{-6} \\
k = 565. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.59726 \times 10^{-6} \\
k = 566. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.55253 \times 10^{-6} \\
k = 567. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.50906 \times 10^{-6} \\
k = 568. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.46681 \times 10^{-6} \\
k = 569. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.42574 \times 10^{-6}
\end{aligned}$$

$$\begin{aligned}
k = 570. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.38582 \times 10^{-6} \\
k = 571. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.34702 \times 10^{-6} \\
k = 572. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.3093 \times 10^{-6} \\
k = 573. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.27264 \times 10^{-6} \\
k = 574. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.237 \times 10^{-6} \\
k = 575. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.20237 \times 10^{-6} \\
k = 576. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.1687 \times 10^{-6} \\
k = 577. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.13598 \times 10^{-6} \\
k = 578. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.10417 \times 10^{-6} \\
k = 579. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.07325 \times 10^{-6} \\
k = 580. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.0432 \times 10^{-6} \\
k = 581. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.01399 \times 10^{-6} \\
k = 582. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.85602 \times 10^{-7} \\
k = 583. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.58005 \times 10^{-7} \\
k = 584. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.31181 \times 10^{-7} \\
k = 585. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.05108 \times 10^{-7} \\
k = 586. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.79765 \times 10^{-7} \\
k = 587. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.55131 \times 10^{-7} \\
k = 588. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.31188 \times 10^{-7} \\
k = 589. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.07914 \times 10^{-7} \\
k = 590. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.85293 \times 10^{-7} \\
k = 591. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.63305 \times 10^{-7} \\
k = 592. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.41932 \times 10^{-7} \\
k = 593. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.21158 \times 10^{-7} \\
k = 594. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.00966 \times 10^{-7} \\
k = 595. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.81339 \times 10^{-7} \\
k = 596. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.62261 \times 10^{-7} \\
k = 597. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.43718 \times 10^{-7} \\
k = 598. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.25694 \times 10^{-7} \\
k = 599. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.08174 \times 10^{-7} \\
k = 600. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.91145 \times 10^{-7} \\
k = 601. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.74593 \times 10^{-7} \\
k = 602. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.58505 \times 10^{-7} \\
k = 603. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.42867 \times 10^{-7} \\
k = 604. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.27666 \times 10^{-7} \\
k = 605. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.12892 \times 10^{-7} \\
k = 606. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.98531 \times 10^{-7} \\
k = 607. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.84572 \times 10^{-7}
\end{aligned}$$

$$\begin{aligned}
k = 608. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.71004 \times 10^{-7} \\
k = 609. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.57816 \times 10^{-7} \\
k = 610. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.44997 \times 10^{-7} \\
k = 611. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.32537 \times 10^{-7} \\
k = 612. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.20426 \times 10^{-7} \\
k = 613. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.08654 \times 10^{-7} \\
k = 614. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.97212 \times 10^{-7} \\
k = 615. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.8609 \times 10^{-7} \\
k = 616. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.75279 \times 10^{-7} \\
k = 617. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.64771 \times 10^{-7} \\
k = 618. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.54558 \times 10^{-7} \\
k = 619. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.4463 \times 10^{-7} \\
k = 620. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.34981 \times 10^{-7} \\
k = 621. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.25601 \times 10^{-7} \\
k = 622. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.16484 \times 10^{-7} \\
k = 623. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.07623 \times 10^{-7} \\
k = 624. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.99009 \times 10^{-7} \\
k = 625. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.90637 \times 10^{-7} \\
k = 626. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.82499 \times 10^{-7} \\
k = 627. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.74589 \times 10^{-7} \\
k = 628. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.66901 \times 10^{-7} \\
k = 629. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.59427 \times 10^{-7} \\
k = 630. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.52163 \times 10^{-7} \\
k = 631. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.45103 \times 10^{-7} \\
k = 632. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.3824 \times 10^{-7} \\
k = 633. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.31569 \times 10^{-7} \\
k = 634. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.25085 \times 10^{-7} \\
k = 635. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.18783 \times 10^{-7} \\
k = 636. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.12657 \times 10^{-7} \\
k = 637. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.06703 \times 10^{-7} \\
k = 638. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.00915 \times 10^{-7} \\
k = 639. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.95289 \times 10^{-7} \\
k = 640. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.89821 \times 10^{-7} \\
k = 641. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.84506 \times 10^{-7} \\
k = 642. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.7934 \times 10^{-7} \\
k = 643. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.74319 \times 10^{-7} \\
k = 644. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.69438 \times 10^{-7} \\
k = 645. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.64693 \times 10^{-7}
\end{aligned}$$

$$\begin{aligned}
k = 646. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.60082 \times 10^{-7} \\
k = 647. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.556 \times 10^{-7} \\
k = 648. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.51243 \times 10^{-7} \\
k = 649. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.47008 \times 10^{-7} \\
k = 650. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.42892 \times 10^{-7} \\
k = 651. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.38891 \times 10^{-7} \\
k = 652. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.35002 \times 10^{-7} \\
k = 653. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.31222 \times 10^{-7} \\
k = 654. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.27548 \times 10^{-7} \\
k = 655. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.23976 \times 10^{-7} \\
k = 656. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.20505 \times 10^{-7} \\
k = 657. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.17131 \times 10^{-7} \\
k = 658. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.13851 \times 10^{-7} \\
k = 659. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.10663 \times 10^{-7} \\
k = 660. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.07565 \times 10^{-7} \\
k = 661. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.04553 \times 10^{-7} \\
k = 662. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.01625 \times 10^{-7} \\
k = 663. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.878 \times 10^{-8} \\
k = 664. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.60141 \times 10^{-8} \\
k = 665. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.33257 \times 10^{-8} \\
k = 666. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.07126 \times 10^{-8} \\
k = 667. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.81727 \times 10^{-8} \\
k = 668. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.57038 \times 10^{-8} \\
k = 669. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.33041 \times 10^{-8} \\
k = 670. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.09716 \times 10^{-8} \\
k = 671. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.87044 \times 10^{-8} \\
k = 672. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.65007 \times 10^{-8} \\
k = 673. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.43587 \times 10^{-8} \\
k = 674. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.22766 \times 10^{-8} \\
k = 675. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.02529 \times 10^{-8} \\
k = 676. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.82858 \times 10^{-8} \\
k = 677. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.63738 \times 10^{-8} \\
k = 678. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.45153 \times 10^{-8} \\
k = 679. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.27089 \times 10^{-8} \\
k = 680. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.09531 \times 10^{-8} \\
k = 681. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.92464 \times 10^{-8} \\
k = 682. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.75875 \times 10^{-8} \\
k = 683. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.5975 \times 10^{-8}
\end{aligned}$$

$$\begin{aligned}
k = 684. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.44077 \times 10^{-8} \\
k = 685. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.28843 \times 10^{-8} \\
k = 686. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.14035 \times 10^{-8} \\
k = 687. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.99642 \times 10^{-8} \\
k = 688. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.85652 \times 10^{-8} \\
k = 689. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.72054 \times 10^{-8} \\
k = 690. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.58837 \times 10^{-8} \\
k = 691. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.45989 \times 10^{-8} \\
k = 692. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.33502 \times 10^{-8} \\
k = 693. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.21363 \times 10^{-8} \\
k = 694. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.09565 \times 10^{-8} \\
k = 695. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.98097 \times 10^{-8} \\
k = 696. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.86951 \times 10^{-8} \\
k = 697. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.76116 \times 10^{-8} \\
k = 698. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.65585 \times 10^{-8} \\
k = 699. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.55348 \times 10^{-8} \\
k = 700. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.45399 \times 10^{-8} \\
k = 701. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.35728 \times 10^{-8} \\
k = 702. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.26327 \times 10^{-8} \\
k = 703. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.1719 \times 10^{-8} \\
k = 704. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.08309 \times 10^{-8} \\
k = 705. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.99676 \times 10^{-8} \\
k = 706. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.91285 \times 10^{-8} \\
k = 707. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.83129 \times 10^{-8} \\
k = 708. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.75202 \times 10^{-8} \\
k = 709. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.67496 \times 10^{-8} \\
k = 710. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.60006 \times 10^{-8} \\
k = 711. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.52726 \times 10^{-8} \\
k = 712. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.4565 \times 10^{-8} \\
k = 713. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.38771 \times 10^{-8} \\
k = 714. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.32086 \times 10^{-8} \\
k = 715. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.25587 \times 10^{-8} \\
k = 716. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.19271 \times 10^{-8} \\
k = 717. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.13131 \times 10^{-8} \\
k = 718. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.07164 \times 10^{-8} \\
k = 719. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.01363 \times 10^{-8} \\
k = 720. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.95725 \times 10^{-8} \\
k = 721. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.90245 \times 10^{-8}
\end{aligned}$$

$$\begin{aligned}
k = 722. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.84918 \times 10^{-8} \\
k = 723. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.7974 \times 10^{-8} \\
k = 724. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.74707 \times 10^{-8} \\
k = 725. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.69816 \times 10^{-8} \\
k = 726. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.65061 \times 10^{-8} \\
k = 727. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.60439 \times 10^{-8} \\
k = 728. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.55947 \times 10^{-8} \\
k = 729. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.5158 \times 10^{-8} \\
k = 730. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.47336 \times 10^{-8} \\
k = 731. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.43211 \times 10^{-8} \\
k = 732. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.39201 \times 10^{-8} \\
k = 733. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.35303 \times 10^{-8} \\
k = 734. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.31515 \times 10^{-8} \\
k = 735. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.27832 \times 10^{-8} \\
k = 736. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.24253 \times 10^{-8} \\
k = 737. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.20774 \times 10^{-8} \\
k = 738. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.17392 \times 10^{-8} \\
k = 739. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.14105 \times 10^{-8} \\
k = 740. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.1091 \times 10^{-8} \\
k = 741. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.07805 \times 10^{-8} \\
k = 742. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.04786 \times 10^{-8} \\
k = 743. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.01852 \times 10^{-8} \\
k = 744. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.90003 \times 10^{-9} \\
k = 745. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.62283 \times 10^{-9} \\
k = 746. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.35339 \times 10^{-9} \\
k = 747. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.09149 \times 10^{-9} \\
k = 748. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.83693 \times 10^{-9} \\
k = 749. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.5895 \times 10^{-9} \\
k = 750. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.34899 \times 10^{-9} \\
k = 751. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.11522 \times 10^{-9} \\
k = 752. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.88799 \times 10^{-9} \\
k = 753. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.66713 \times 10^{-9} \\
k = 754. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.45245 \times 10^{-9} \\
k = 755. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.24378 \times 10^{-9} \\
k = 756. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.04096 \times 10^{-9} \\
k = 757. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.84381 \times 10^{-9} \\
k = 758. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.65218 \times 10^{-9} \\
k = 759. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.46592 \times 10^{-9}
\end{aligned}$$

$$\begin{aligned}
k = 760. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.28487 \times 10^{-9} \\
k = 761. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.1089 \times 10^{-9} \\
k = 762. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.93785 \times 10^{-9} \\
k = 763. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.77159 \times 10^{-9} \\
k = 764. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.60999 \times 10^{-9} \\
k = 765. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.45291 \times 10^{-9} \\
k = 766. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.30022 \times 10^{-9} \\
k = 767. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.15182 \times 10^{-9} \\
k = 768. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.00757 \times 10^{-9} \\
k = 769. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.86736 \times 10^{-9} \\
k = 770. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.73107 \times 10^{-9} \\
k = 771. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.5986 \times 10^{-9} \\
k = 772. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.46984 \times 10^{-9} \\
k = 773. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.34468 \times 10^{-9} \\
k = 774. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.22303 \times 10^{-9} \\
k = 775. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.10479 \times 10^{-9} \\
k = 776. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.98985 \times 10^{-9} \\
k = 777. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.87814 \times 10^{-9} \\
k = 778. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.76955 \times 10^{-9} \\
k = 779. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.664 \times 10^{-9} \\
k = 780. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.56141 \times 10^{-9} \\
k = 781. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.46169 \times 10^{-9} \\
k = 782. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.36476 \times 10^{-9} \\
k = 783. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.27055 \times 10^{-9} \\
k = 784. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.17897 \times 10^{-9} \\
k = 785. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.08996 \times 10^{-9} \\
k = 786. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.00344 \times 10^{-9} \\
k = 787. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.91935 \times 10^{-9} \\
k = 788. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.83761 \times 10^{-9} \\
k = 789. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.75815 \times 10^{-9} \\
k = 790. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.68092 \times 10^{-9} \\
k = 791. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.60586 \times 10^{-9} \\
k = 792. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.53289 \times 10^{-9} \\
k = 793. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.46197 \times 10^{-9} \\
k = 794. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.39304 \times 10^{-9} \\
k = 795. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.32603 \times 10^{-9} \\
k = 796. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.2609 \times 10^{-9} \\
k = 797. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.1976 \times 10^{-9}
\end{aligned}$$

$$\begin{aligned}
k = 798. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.13607 \times 10^{-9} \\
k = 799. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.07626 \times 10^{-9} \\
k = 800. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.01812 \times 10^{-9} \\
k = 801. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.96161 \times 10^{-9} \\
k = 802. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.90669 \times 10^{-9} \\
k = 803. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.8533 \times 10^{-9} \\
k = 804. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.80141 \times 10^{-9} \\
k = 805. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.75097 \times 10^{-9} \\
k = 806. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.70194 \times 10^{-9} \\
k = 807. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.65429 \times 10^{-9} \\
k = 808. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.60797 \times 10^{-9} \\
k = 809. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.56294 \times 10^{-9} \\
k = 810. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.51918 \times 10^{-9} \\
k = 811. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.47665 \times 10^{-9} \\
k = 812. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.4353 \times 10^{-9} \\
k = 813. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.39511 \times 10^{-9} \\
k = 814. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.35605 \times 10^{-9} \\
k = 815. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.31808 \times 10^{-9} \\
k = 816. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.28117 \times 10^{-9} \\
k = 817. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.2453 \times 10^{-9} \\
k = 818. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.21043 \times 10^{-9} \\
k = 819. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.17654 \times 10^{-9} \\
k = 820. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.1436 \times 10^{-9} \\
k = 821. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.11158 \times 10^{-9} \\
k = 822. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.08045 \times 10^{-9} \\
k = 823. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.0502 \times 10^{-9} \\
k = 824. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.02079 \times 10^{-9} \\
k = 825. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.92211 \times 10^{-10} \\
k = 826. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.64429 \times 10^{-10} \\
k = 827. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.37425 \times 10^{-10} \\
k = 828. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.11177 \times 10^{-10} \\
k = 829. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.85664 \times 10^{-10} \\
k = 830. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.60865 \times 10^{-10} \\
k = 831. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.36761 \times 10^{-10} \\
k = 832. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.13332 \times 10^{-10} \\
k = 833. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.90558 \times 10^{-10} \\
k = 834. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.68423 \times 10^{-10} \\
k = 835. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.46907 \times 10^{-10}
\end{aligned}$$

$$\begin{aligned}
k = 836. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.25994 \times 10^{-10} \\
k = 837. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.05666 \times 10^{-10} \\
k = 838. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.85907 \times 10^{-10} \\
k = 839. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.66702 \times 10^{-10} \\
k = 840. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.48034 \times 10^{-10} \\
k = 841. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.29889 \times 10^{-10} \\
k = 842. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.12252 \times 10^{-10} \\
k = 843. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.95109 \times 10^{-10} \\
k = 844. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.78446 \times 10^{-10} \\
k = 845. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.6225 \times 10^{-10} \\
k = 846. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.46507 \times 10^{-10} \\
k = 847. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.31204 \times 10^{-10} \\
k = 848. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.16331 \times 10^{-10} \\
k = 849. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.01873 \times 10^{-10} \\
k = 850. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.87821 \times 10^{-10} \\
k = 851. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.74162 \times 10^{-10} \\
k = 852. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.60885 \times 10^{-10} \\
k = 853. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.47981 \times 10^{-10} \\
k = 854. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.35437 \times 10^{-10} \\
k = 855. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.23245 \times 10^{-10} \\
k = 856. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.11394 \times 10^{-10} \\
k = 857. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.99875 \times 10^{-10} \\
k = 858. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.88679 \times 10^{-10} \\
k = 859. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.77796 \times 10^{-10} \\
k = 860. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.67217 \times 10^{-10} \\
k = 861. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.56935 \times 10^{-10} \\
k = 862. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.46941 \times 10^{-10} \\
k = 863. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.37227 \times 10^{-10} \\
k = 864. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.27784 \times 10^{-10} \\
k = 865. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.18606 \times 10^{-10} \\
k = 866. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.09685 \times 10^{-10} \\
k = 867. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.01014 \times 10^{-10} \\
k = 868. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.92586 \times 10^{-10} \\
k = 869. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.84393 \times 10^{-10} \\
k = 870. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.7643 \times 10^{-10} \\
k = 871. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.6869 \times 10^{-10} \\
k = 872. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.61167 \times 10^{-10} \\
k = 873. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.53854 \times 10^{-10}
\end{aligned}$$

$$\begin{aligned}
k = 874. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.46746 \times 10^{-10} \\
k = 875. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.39838 \times 10^{-10} \\
k = 876. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.33122 \times 10^{-10} \\
k = 877. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.26595 \times 10^{-10} \\
k = 878. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.2025 \times 10^{-10} \\
k = 879. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.14083 \times 10^{-10} \\
k = 880. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.08089 \times 10^{-10} \\
k = 881. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.02262 \times 10^{-10} \\
k = 882. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.96599 \times 10^{-10} \\
k = 883. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.91094 \times 10^{-10} \\
k = 884. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.85743 \times 10^{-10} \\
k = 885. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.80543 \times 10^{-10} \\
k = 886. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.75487 \times 10^{-10} \\
k = 887. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.70574 \times 10^{-10} \\
k = 888. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.65798 \times 10^{-10} \\
k = 889. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.61155 \times 10^{-10} \\
k = 890. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.56643 \times 10^{-10} \\
k = 891. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.52257 \times 10^{-10} \\
k = 892. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.47994 \times 10^{-10} \\
k = 893. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.4385 \times 10^{-10} \\
k = 894. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.39822 \times 10^{-10} \\
k = 895. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.35907 \times 10^{-10} \\
k = 896. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.32102 \times 10^{-10} \\
k = 897. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.28403 \times 10^{-10} \\
k = 898. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.24808 \times 10^{-10} \\
k = 899. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.21313 \times 10^{-10} \\
k = 900. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.17916 \times 10^{-10} \\
k = 901. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.14615 \times 10^{-10} \\
k = 902. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.11405 \times 10^{-10} \\
k = 903. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.08286 \times 10^{-10} \\
k = 904. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.05254 \times 10^{-10} \\
k = 905. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.02307 \times 10^{-10} \\
k = 906. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.94423 \times 10^{-11} \\
k = 907. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.6658 \times 10^{-11} \\
k = 908. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.39515 \times 10^{-11} \\
k = 909. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.13209 \times 10^{-11} \\
k = 910. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.87639 \times 10^{-11} \\
k = 911. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.62785 \times 10^{-11}
\end{aligned}$$

$$\begin{aligned}
k = 912. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.38627 \times 10^{-11} \\
k = 913. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.15146 \times 10^{-11} \\
k = 914. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.92322 \times 10^{-11} \\
k = 915. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.70136 \times 10^{-11} \\
k = 916. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.48573 \times 10^{-11} \\
k = 917. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.27613 \times 10^{-11} \\
k = 918. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.07239 \times 10^{-11} \\
k = 919. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.87437 \times 10^{-11} \\
k = 920. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.68189 \times 10^{-11} \\
k = 921. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.49479 \times 10^{-11} \\
k = 922. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.31294 \times 10^{-11} \\
k = 923. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.13618 \times 10^{-11} \\
k = 924. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.96436 \times 10^{-11} \\
k = 925. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.79736 \times 10^{-11} \\
k = 926. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.63504 \times 10^{-11} \\
k = 927. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.47725 \times 10^{-11} \\
k = 928. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.32389 \times 10^{-11} \\
k = 929. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.17482 \times 10^{-11} \\
k = 930. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.02993 \times 10^{-11} \\
k = 931. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.88909 \times 10^{-11} \\
k = 932. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.75219 \times 10^{-11} \\
k = 933. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.61913 \times 10^{-11} \\
k = 934. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.4898 \times 10^{-11} \\
k = 935. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.36408 \times 10^{-11} \\
k = 936. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.24189 \times 10^{-11} \\
k = 937. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.12312 \times 10^{-11} \\
k = 938. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.00767 \times 10^{-11} \\
k = 939. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.89545 \times 10^{-11} \\
k = 940. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.78638 \times 10^{-11} \\
k = 941. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.68036 \times 10^{-11} \\
k = 942. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.57731 \times 10^{-11} \\
k = 943. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.47715 \times 10^{-11} \\
k = 944. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.37979 \times 10^{-11} \\
k = 945. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.28515 \times 10^{-11} \\
k = 946. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.19317 \times 10^{-11} \\
k = 947. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.10376 \times 10^{-11} \\
k = 948. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.01686 \times 10^{-11} \\
k = 949. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.93238 \times 10^{-11}
\end{aligned}$$

$$\begin{aligned}
k = 950. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.85028 \times 10^{-11} \\
k = 951. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.77047 \times 10^{-11} \\
k = 952. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.6929 \times 10^{-11} \\
k = 953. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.61749 \times 10^{-11} \\
k = 954. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.5442 \times 10^{-11} \\
k = 955. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.47297 \times 10^{-11} \\
k = 956. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.40372 \times 10^{-11} \\
k = 957. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.33642 \times 10^{-11} \\
k = 958. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.271 \times 10^{-11} \\
k = 959. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.20741 \times 10^{-11} \\
k = 960. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.1456 \times 10^{-11} \\
k = 961. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.08553 \times 10^{-11} \\
k = 962. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.02713 \times 10^{-11} \\
k = 963. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.97037 \times 10^{-11} \\
k = 964. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.9152 \times 10^{-11} \\
k = 965. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.86158 \times 10^{-11} \\
k = 966. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.80945 \times 10^{-11} \\
k = 967. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.75879 \times 10^{-11} \\
k = 968. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.70954 \times 10^{-11} \\
k = 969. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.66167 \times 10^{-11} \\
k = 970. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.61515 \times 10^{-11} \\
k = 971. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.56992 \times 10^{-11} \\
k = 972. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.52597 \times 10^{-11} \\
k = 973. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.48324 \times 10^{-11} \\
k = 974. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.44171 \times 10^{-11} \\
k = 975. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.40134 \times 10^{-11} \\
k = 976. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.3621 \times 10^{-11} \\
k = 977. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.32396 \times 10^{-11} \\
k = 978. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.28689 \times 10^{-11} \\
k = 979. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.25086 \times 10^{-11} \\
k = 980. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.21584 \times 10^{-11} \\
k = 981. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.18179 \times 10^{-11} \\
k = 982. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.1487 \times 10^{-11} \\
k = 983. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.11654 \times 10^{-11} \\
k = 984. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.08528 \times 10^{-11} \\
k = 985. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.05489 \times 10^{-11} \\
k = 986. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.02535 \times 10^{-11} \\
k = 987. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.96641 \times 10^{-12}
\end{aligned}$$

$$\begin{aligned}
k = 988. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.68735 \times 10^{-12} \\
k = 989. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.41611 \times 10^{-12} \\
k = 990. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.15245 \times 10^{-12} \\
k = 991. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.89619 \times 10^{-12} \\
k = 992. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.64709 \times 10^{-12} \\
k = 993. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.40497 \times 10^{-12} \\
k = 994. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 8.16963 \times 10^{-12} \\
k = 995. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.94088 \times 10^{-12} \\
k = 996. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.71854 \times 10^{-12} \\
k = 997. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.50242 \times 10^{-12} \\
k = 998. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.29235 \times 10^{-12} \\
k = 999. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 7.08817 \times 10^{-12} \\
k = 1000. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.8897 \times 10^{-12} \\
k = 1001. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.69679 \times 10^{-12} \\
k = 1002. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.50928 \times 10^{-12} \\
k = 1003. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.32702 \times 10^{-12} \\
k = 1004. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 6.14986 \times 10^{-12} \\
k = 1005. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.97766 \times 10^{-12} \\
k = 1006. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.81029 \times 10^{-12} \\
k = 1007. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.6476 \times 10^{-12} \\
k = 1008. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.48947 \times 10^{-12} \\
k = 1009. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.33576 \times 10^{-12} \\
k = 1010. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.18636 \times 10^{-12} \\
k = 1011. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 5.04114 \times 10^{-12} \\
k = 1012. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.89999 \times 10^{-12} \\
k = 1013. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.76279 \times 10^{-12} \\
k = 1014. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.62943 \times 10^{-12} \\
k = 1015. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.49981 \times 10^{-12} \\
k = 1016. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.37382 \times 10^{-12} \\
k = 1017. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.25135 \times 10^{-12} \\
k = 1018. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.13231 \times 10^{-12} \\
k = 1019. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 4.01661 \times 10^{-12} \\
k = 1020. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.90414 \times 10^{-12} \\
k = 1021. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.79483 \times 10^{-12} \\
k = 1022. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.68857 \times 10^{-12} \\
k = 1023. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.58529 \times 10^{-12} \\
k = 1024. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.4849 \times 10^{-12} \\
k = 1025. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.38732 \times 10^{-12}
\end{aligned}$$

$$\begin{aligned}
k = 1026. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.29248 \times 10^{-12} \\
k = 1027. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.20029 \times 10^{-12} \\
k = 1028. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.11068 \times 10^{-12} \\
k = 1029. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 3.02358 \times 10^{-12} \\
k = 1030. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.93892 \times 10^{-12} \\
k = 1031. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.85663 \times 10^{-12} \\
k = 1032. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.77665 \times 10^{-12} \\
k = 1033. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.6989 \times 10^{-12} \\
k = 1034. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.62333 \times 10^{-12} \\
k = 1035. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.54988 \times 10^{-12} \\
k = 1036. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.47848 \times 10^{-12} \\
k = 1037. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.40908 \times 10^{-12} \\
k = 1038. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.34163 \times 10^{-12} \\
k = 1039. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.27606 \times 10^{-12} \\
k = 1040. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.21233 \times 10^{-12} \\
k = 1041. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.15039 \times 10^{-12} \\
k = 1042. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.09018 \times 10^{-12} \\
k = 1043. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 2.03165 \times 10^{-12} \\
k = 1044. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.97477 \times 10^{-12} \\
k = 1045. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.91947 \times 10^{-12} \\
k = 1046. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.86573 \times 10^{-12} \\
k = 1047. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.81349 \times 10^{-12} \\
k = 1048. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.76271 \times 10^{-12} \\
k = 1049. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.71335 \times 10^{-12} \\
k = 1050. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.66538 \times 10^{-12} \\
k = 1051. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.61875 \times 10^{-12} \\
k = 1052. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.57342 \times 10^{-12} \\
k = 1053. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.52937 \times 10^{-12} \\
k = 1054. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.48655 \times 10^{-12} \\
k = 1055. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.44492 \times 10^{-12} \\
k = 1056. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.40447 \times 10^{-12} \\
k = 1057. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.36514 \times 10^{-12} \\
k = 1058. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.32692 \times 10^{-12} \\
k = 1059. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.28976 \times 10^{-12} \\
k = 1060. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.25365 \times 10^{-12} \\
k = 1061. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.21855 \times 10^{-12} \\
k = 1062. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.18443 \times 10^{-12} \\
k = 1063. \quad x^{(k)} &= \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.15126 \times 10^{-12}
\end{aligned}$$

$$k = 1064. \quad x^{(k)} = \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.11903 \times 10^{-12}$$

$$k = 1065. \quad x^{(k)} = \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.0877 \times 10^{-12}$$

$$k = 1066. \quad x^{(k)} = \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.05724 \times 10^{-12}$$

$$k = 1067. \quad x^{(k)} = \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 1.02764 \times 10^{-12}$$

$$k = 1068. \quad x^{(k)} = \{0.644099, -0.440987, 0.446092\} \quad \varepsilon_k = 9.98864 \times 10^{-13}$$

За сравнение, точното решение е $\{0.644099, -0.440987, 0.446092\}$