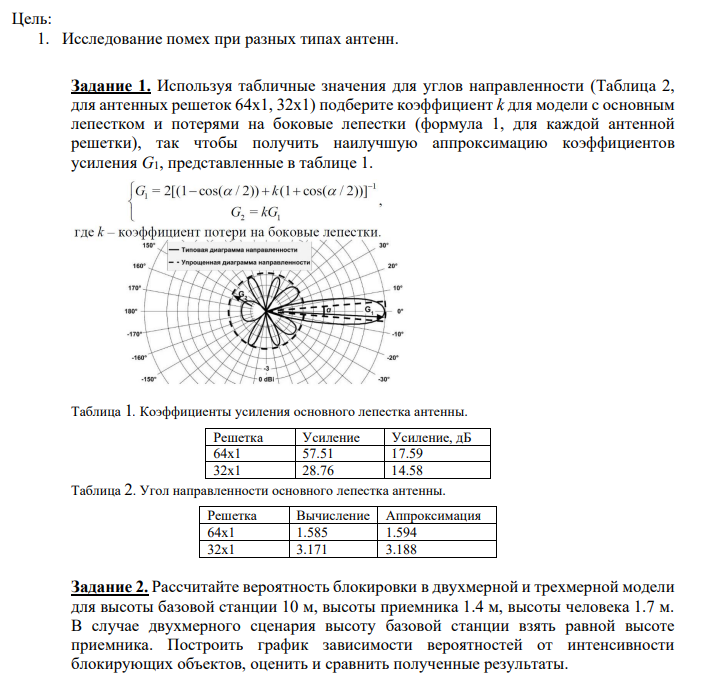
Лабораторная №7 Анализ помех для разных типов антенн

1. 
2. import matplotlib.pyplot as plt  
   import numpy as np  
     
   def get\_k(G1, alpha):  
    return ((2 / G1) - (1 - np.cos(alpha / 2))) / (1 + np.cos(alpha / 2))  
     
   def get\_G2(G1, k):  
    return G1\*k  
     
   G1\_64x1 = 57.51  
   G1\_32x1 = 28.76  
     
   alpha\_64x1 = 1.585\*(np.pi/180)  
   alpha\_32x1 = 3.171\*(np.pi/180)  
     
   K\_64x1 = get\_k(G1\_64x1, alpha\_64x1)  
   G2\_64x2 = get\_G2(G1\_64x1, K\_64x1)  
   print(f"K при G1\_64x1 = {K\_64x1}, соответственно G2 = {G2\_64x2}")  
   K\_32x1 = get\_k(G1\_32x1, alpha\_32x1)  
   G2\_32x2 = get\_G2(G1\_32x1, K\_32x1)  
   print(f"K при G1\_32x1 = {K\_32x1}, соответственно G2 = {G2\_32x2}")  
     
   h\_A = 10  
   h\_U = 1.4  
   h\_B = 1.7  
     
   lambda\_b = np.linspace(0.1, 3, 100)  
   dist = 5  
   rad\_b = 0.3  
   def prob\_2d(lambda\_b, rad\_b, dist):  
    return 1 - np.exp(-lambda\_b\*2\*rad\_b\*dist)  
   def prob\_3d(lambda\_b, rad\_b, dist, h\_A, h\_U, h\_B):  
    return 1 - np.exp(-lambda\_b\*2\*rad\_b\*((dist\*((h\_B-h\_U)/(h\_A-h\_U)))+rad\_b))  
     
   probs\_2d = []  
   for i in lambda\_b:  
    probs\_2d.append(prob\_2d(i, rad\_b=rad\_b, dist=dist))  
     
   probs\_3d = []  
   for i in lambda\_b:  
    probs\_3d.append(prob\_3d(i, rad\_b=rad\_b, dist=dist, h\_A=h\_A, h\_U=h\_U, h\_B=h\_B))  
     
   plt.plot(lambda\_b, probs\_2d, label='Вероятности 2d')  
   plt.plot(lambda\_b, probs\_3d, label='Вероятности 3d')  
   plt.xlabel('Lambda')  
   plt.ylabel('Вероятность')  
   plt.title('Отношение вероятности к интенсивности блокатора')  
   plt.legend()  
   plt.show()

