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1 C:\Users\gince\.conda\envs\SN-Project-1.2-GPU\python.exe C:/Users/gince/
  Documents/GitHub/Ulaval_projects/PHY-2007_physique_atomique/Projet/main.py
2
3 Problem 2.a
4
5 -----
6 Transition (3 -> 2) :
7
8  $R^s_{\text{mean}} / rs_{\text{mean\_normalized\_coeff}} = 1.64616e-03$ 
9 reference  $R^s / rs_{\text{mean\_normalized\_coeff}} = 2.74669e-03$ 
10
11  $\omega / \omega_{\text{normalized\_coeff}} = 1.38889e-01$ 
12 reference  $\omega / \omega_{\text{normalized\_coeff}} = 1.38889e-01$ 
13 -----
14 -----
15 Transition (4 -> 2) :
16
17  $R^s_{\text{mean}} / rs_{\text{mean\_normalized\_coeff}} = 5.58690e-04$ 
18 reference  $R^s / rs_{\text{mean\_normalized\_coeff}} = 5.24360e-04$ 
19
20  $\omega / \omega_{\text{normalized\_coeff}} = 1.87500e-01$ 
21 reference  $\omega / \omega_{\text{normalized\_coeff}} = 1.87500e-01$ 
22 -----
23 -----
24 Transition (5 -> 2) :
25
26  $R^s_{\text{mean}} / rs_{\text{mean\_normalized\_coeff}} = 2.62367e-04$ 
27 reference  $R^s / rs_{\text{mean\_normalized\_coeff}} = 1.57596e-04$ 
28
29  $\omega / \omega_{\text{normalized\_coeff}} = 2.10000e-01$ 
30 reference  $\omega / \omega_{\text{normalized\_coeff}} = 2.10000e-01$ 
31 -----
32 -----
33 Transition (6 -> 2) :
34
35  $R^s_{\text{mean}} / rs_{\text{mean\_normalized\_coeff}} = 1.45304e-04$ 
36 reference  $R^s / rs_{\text{mean\_normalized\_coeff}} = 6.06110e-05$ 
37
38  $\omega / \omega_{\text{normalized\_coeff}} = 2.22222e-01$ 
39 reference  $\omega / \omega_{\text{normalized\_coeff}} = 2.22222e-01$ 
40 -----
41
42 Problem 2.b
43
44 ---
45  $I_{(3, 2)} / I_{(4, 2)} = 2.63e+3 [-]$ 
46 x position (3, 2):  $-4.42e-03$  [m]
47 ---
48 ---
49  $I_{(4, 2)} / I_{(4, 2)} = 1.00e+0 [-]$ 
50 x position (4, 2):  $0.00e+00$  [m]
51 ---
52 ---
53  $I_{(5, 2)} / I_{(4, 2)} = 2.36e-2 [-]$ 
54 x position (5, 2):  $2.49e-03$  [m]
55 ---
56 ---
57  $I_{(6, 2)} / I_{(4, 2)} = 2.89e-3 [-]$ 
58 x position (6, 2):  $3.96e-03$  [m]
59 ---
60
61 Problem 2.c
62
63 ---
64  $I_{(3, 2)} / I_{(4, 2)} = 2.63e+3 [-]$ 

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```
65 x position (3, 2): -4.42e-03 [m]
66 ---
67 ---
68 I_(4, 2) / I_(4, 2) = 1.00e+0 [-]
69 x position (4, 2): 0.00e+00 [m]
70 ---
71 ---
72 I_(5, 2) / I_(4, 2) = 2.36e-2 [-]
73 x position (5, 2): 2.49e-03 [m]
74 ---
75 ---
76 I_(6, 2) / I_(4, 2) = 2.89e-3 [-]
77 x position (6, 2): 3.96e-03 [m]
78 ---
79 --- elapse time : 1213.51 s ---
80
81 Process finished with exit code 0
82
```