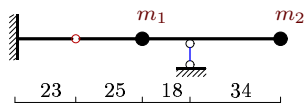


Колебание грузов

Найти вероятность того, что высшая частота колебаний грузов на упругой балке попадет в указанный интервал при заданном изменении массы m_2 . Принять жесткость балки на изгиб $EJ = 1000 \text{ Нм}^2$. Размеры даны в сантиметрах.

Задача L-14.1.

1



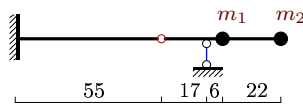
$$m_1 = 5 \text{ кг,}$$

$$10 < m_2 < 14.5 \text{ кг.}$$

$$382.203 < \omega < 382.789$$

Задача L-14.2.

1



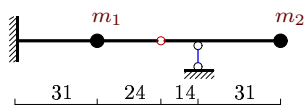
$$m_1 = 5 \text{ кг,}$$

$$8 < m_2 < 15.5 \text{ кг.}$$

$$1008.175 < \omega < 1012.282$$

Задача L-14.3.

1



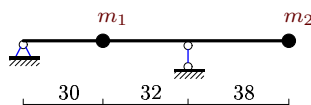
$$m_1 = 5 \text{ кг,}$$

$$8 < m_2 < 15 \text{ кг.}$$

$$314.580 < \omega < 315.380$$

Задача L-14.4.

1



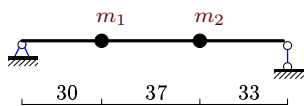
$$m_1 = 9 \text{ кг,}$$

$$6 < m_2 < 13.5 \text{ кг.}$$

$$187.435 < \omega < 189.132$$

Задача L-14.5.

1



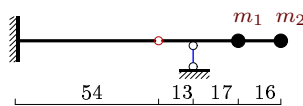
$$m_1 = 7 \text{ кг,}$$

$$8 < m_2 < 12 \text{ кг.}$$

$$229.587 < \omega < 240.968$$

Задача L-14.6.

1



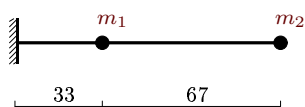
$$m_1 = 13 \text{ кг,}$$

$$8 < m_2 < 14.5 \text{ кг.}$$

$$364.386 < \omega < 381.329$$

Задача L-14.7.

1



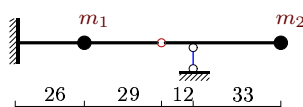
$$m_1 = 12 \text{ кг,}$$

$$4 < m_2 < 8.5 \text{ кг.}$$

$$132.575 < \omega < 133.546$$

Задача L-14.8.

1



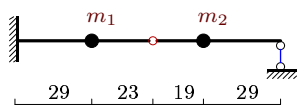
$$m_1 = 13 \text{ кг,}$$

$$8 < m_2 < 14.5 \text{ кг.}$$

$$220.224 < \omega < 220.721$$

Задача L-14.9.

1



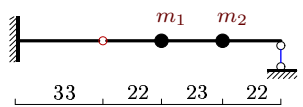
$$m_1 = 12 \text{ кг,}$$

$$6 < m_2 < 12 \text{ кг.}$$

$$236.867 < \omega < 253.729$$

Задача L-14.10.

1



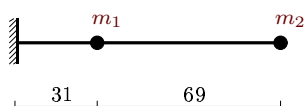
$$m_1 = 8 \text{ кг,}$$

$$4 < m_2 < 8.5 \text{ кг.}$$

$$369.893 < \omega < 415.134$$

Задача L-14.11.

1



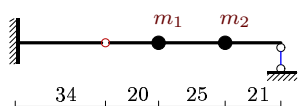
$$m_1 = 7 \text{ кг,}$$

$$12 < m_2 < 16 \text{ кг.}$$

$$181.676 < \omega < 181.839$$

Задача L-14.12.

1



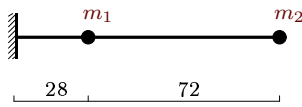
$$m_1 = 13 \text{ кг,}$$

$$14 < m_2 < 19 \text{ кг.}$$

$$229.498 < \omega < 246.058$$

Задача L-14.13.

1



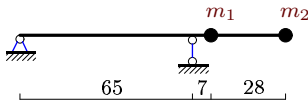
$$m_1 = 13 \text{ кг,}$$

$$8 < m_2 < 14 \text{ кг.}$$

$$148.558 < \omega < 148.938$$

Задача L-14.15.

1



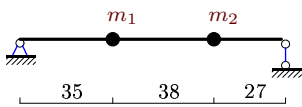
$$m_1 = 4 \text{ кг,}$$

$$5 < m_2 < 12 \text{ кг.}$$

$$981.483 < \omega < 984.035$$

Задача L-14.17.

1



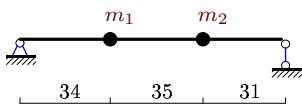
$$m_1 = 11 \text{ кг,}$$

$$10 < m_2 < 17 \text{ кг.}$$

$$183.812 < \omega < 202.741$$

Задача L-14.19.

1



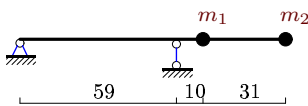
$$m_1 = 5 \text{ кг,}$$

$$4 < m_2 < 9 \text{ кг.}$$

$$284.040 < \omega < 308.444$$

Задача L-14.21.

1



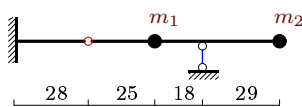
$$m_1 = 12 \text{ кг,}$$

$$5 < m_2 < 11.5 \text{ кг.}$$

$$403.535 < \omega < 407.770$$

Задача L-14.23.

1



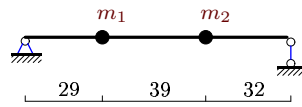
$$m_1 = 7 \text{ кг,}$$

$$13 < m_2 < 21 \text{ кг.}$$

$$305.364 < \omega < 306.697$$

Задача L-14.14.

1



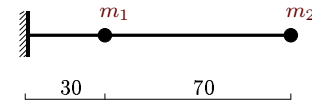
$$m_1 = 11 \text{ кг,}$$

$$13 < m_2 < 17.5 \text{ кг.}$$

$$180.578 < \omega < 188.324$$

Задача L-14.16.

1



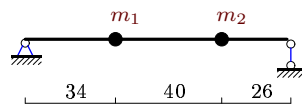
$$m_1 = 10 \text{ кг,}$$

$$7 < m_2 < 12 \text{ кг.}$$

$$157.681 < \omega < 158.101$$

Задача L-14.18.

1



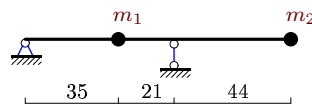
$$m_1 = 4 \text{ кг,}$$

$$6 < m_2 < 13.5 \text{ кг.}$$

$$263.579 < \omega < 285.647$$

Задача L-14.20.

1



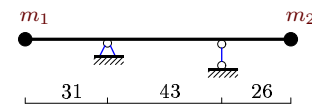
$$m_1 = 13 \text{ кг,}$$

$$7 < m_2 < 12 \text{ кг.}$$

$$197.113 < \omega < 198.013$$

Задача L-14.22.

1



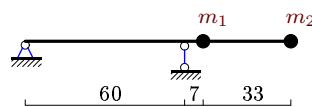
$$m_1 = 4 \text{ кг,}$$

$$5 < m_2 < 11 \text{ кг.}$$

$$116.970 < \omega < 125.730$$

Задача L-14.24.

1



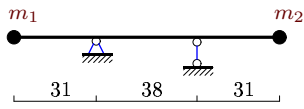
$$m_1 = 12 \text{ кг,}$$

$$11 < m_2 < 17.5 \text{ кг.}$$

$$533.037 < \omega < 534.188$$

Задача L-14.25.

1



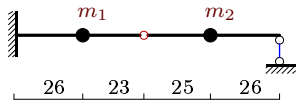
$$m_1 = 4 \text{ кг,}$$

$$5 < m_2 < 12 \text{ кг.}$$

$$114.557 < \omega < 117.492$$

Задача L-14.27.

1



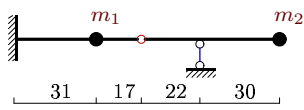
$$m_1 = 8 \text{ кг,}$$

$$9 < m_2 < 16.5 \text{ кг.}$$

$$262.326 < \omega < 272.470$$

Задача L-14.29.

1



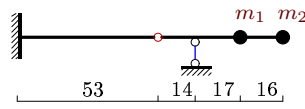
$$m_1 = 10 \text{ кг,}$$

$$8 < m_2 < 15.5 \text{ кг.}$$

$$199.047 < \omega < 202.283$$

Задача L-14.26.

1



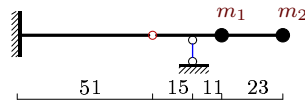
$$m_1 = 10 \text{ кг,}$$

$$11 < m_2 < 18.5 \text{ кг.}$$

$$397.439 < \omega < 408.634$$

Задача L-14.28.

1



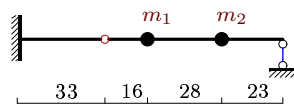
$$m_1 = 10 \text{ кг,}$$

$$5 < m_2 < 8.5 \text{ кг.}$$

$$433.706 < \omega < 441.422$$

Задача L-14.30.

1



$$m_1 = 6 \text{ кг,}$$

$$13 < m_2 < 17 \text{ кг.}$$

$$253.266 < \omega < 262.682$$

Отвeты.
Колeбание грузов

22-Jan-16

	δ_{11}	δ_{12}	δ_{22}	ω_1	ω_2	ω_1^*	$\Delta\omega$	P
	см ³			рад/с				
1	2.280	-5.375	32.206	382.919	55.330	382.072	0.847	0.692
2	7.184	33.659	162.208	1013.455	27.394	1007.002	6.453	0.636
3	9.930	47.524	286.331	315.609	20.716	314.351	1.257	0.636
4	4.955	9.022	48.133	189.811	57.200	186.756	3.056	0.556
5	14.700	13.218	16.295	244.220	67.964	226.335	17.885	0.636
6	92.648	180.616	354.919	386.169	15.739	359.545	26.624	0.636
7	11.979	48.461	333.333	134.194	26.523	131.928	2.266	0.429
8	5.859	43.067	435.739	220.864	16.804	220.082	0.782	0.636
9	8.130	10.755	19.216	260.474	71.046	230.123	30.352	0.556
10	10.280	6.881	6.168	445.294	99.080	339.733	105.561	0.429
11	9.930	43.085	333.333	181.869	15.734	181.647	0.222	0.733
12	10.639	6.633	5.837	248.818	70.037	226.738	22.080	0.750
13	7.317	35.541	333.333	149.046	19.185	148.450	0.596	0.636
14	14.132	12.582	15.783	189.615	54.815	179.287	10.328	0.750
15	1.176	6.109	40.833	985.311	69.364	980.207	5.104	0.500
16	9.000	40.500	333.333	158.241	20.483	157.540	0.701	0.600
17	17.252	12.672	12.949	206.947	58.132	179.606	27.342	0.692
18	16.785	12.034	12.339	294.474	87.826	254.752	39.722	0.556
19	16.785	13.848	15.251	324.714	85.925	267.770	56.944	0.429
20	3.216	8.759	64.533	198.313	46.220	196.814	1.499	0.600
21	2.300	9.947	56.033	409.888	57.561	401.417	8.471	0.500
22	23.705	5.776	15.548	130.110	93.870	112.590	17.519	0.500
23	2.852	-5.505	23.512	306.919	56.343	305.141	1.777	0.750
24	1.094	6.523	53.333	534.418	40.951	532.807	1.611	0.714
25	22.103	6.086	22.103	119.449	88.100	112.601	6.848	0.429
26	76.159	148.608	292.787	411.122	15.858	394.951	16.171	0.692
27	5.859	6.950	12.954	275.005	81.587	259.790	15.215	0.667
28	24.828	77.204	246.058	445.281	26.051	429.848	15.433	0.500
29	9.930	24.680	84.149	203.208	36.557	198.123	5.085	0.636
30	10.254	6.521	6.507	264.252	87.108	251.696	12.555	0.750

L-14 файл o14L1A