

振動倍率係数 \mathfrak{B}/V の表について(補遺)*

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筆者は前報⁽¹⁾において振動倍率係数 \mathfrak{B}/V の値を計算したが、その範囲を拡大したのでその表を掲げる。かつ、前報の数値に誤りおよび誤植があるので、その修正および訂正をする。

まず、前報の表の修正であるが pp. 32~33 の表中、 $T/T_0=1.6$ の行については計算による誤りであって、Tab. 1 のとおり修正する。また、その表中、9か所は誤植による誤りであって、これは Tab. 2 のように訂正する。なお、p. 31 の5行目、「粘く」は「あらく」の、脚注の「勝蔵」は「勝茂」の誤りである。

次に、前報においては v を 2.0~10.0 の範囲、 T/T_0 を 0.1~2.1 の範囲としたのであるが、最近制振度の大きい地震計が用いられる傾向にあって、広範囲な \mathfrak{B}/V の値を照会される向きもあったので、範囲を拡張した \mathfrak{B}/V の表を作り、前報の補遺とした。すなわち、 v の範囲を 2.0~50.0 とし、2.0~20.0 の間では 0.5 ごとに、20.0~50.0 のあいだでは 5.0 ごととした。なお、 v の特殊な値として 23.1、 ∞ についても計算した。これらの v の値に対応させて、 T/T_0 を 0.1~5.5 の範囲にとり、0.1~4.0 の間は 0.1 ごとに、4.0~5.5 の間は 0.5 ごとに計算した。

このような範囲について、前報と同じ方法で計算した結果が、Tab. 3、振動倍率係数 \mathfrak{B}/V の表である。ただし、この表には前報に掲載した範囲については省略してある。

さらに、 v の値 6.0、23.1、 ∞ に対応させて、 T/T_0 を 6.0~10.0 の範囲で 0.5 ごとにとり、 \mathfrak{B}/V を計算した結果を Tab. 4 に掲げた。

* K. Sakata : On the Table of Dynamical Magnification Coefficient \mathfrak{B}/V (Supplement)

** 富崎測候所

(1) 坂田勝茂；振動倍率係数 \mathfrak{B}/V について，*験震時報*，16 No. 1 31~33 (1952)

Table 1. 訂 正 表

T/T_0 v	1.6	T/T_0 v	1.6	T/T_0 v	1.6	T/T_0 v	1.6	T/T_0 v	1.6	T/T_0 v	1.6
2.0	0.586	3.0	0.531	4.0	0.494	5.0	0.468	6.0	0.450	7.0	0.436
2.1	.580	3.1	.527	4.1	.491	5.1	.466	6.1	.448	7.1	.434
2.2	.573	3.2	.522	4.2	.488	5.2	.464	6.2	.446	7.2	.433
2.3	.568	3.3	.518	4.3	.485	5.3	.462	6.3	.445	7.3	.432
2.4	.561	3.4	.514	4.4	.482	5.4	.460	6.4	.444	7.4	.431
2.5	.556	3.5	.510	4.5	.480	5.5	.458	6.5	.442	7.5	.430
2.6	.550	3.6	.507	4.6	.477	5.6	.456	6.6	.441	7.6	.428
2.7	.545	3.7	.503	4.7	.475	5.7	.455	6.7	.439	7.7	.427
2.8	.540	3.8	.500	4.8	.473	5.8	.453	6.8	.438	7.8	.426
2.9	.535	3.9	.497	4.9	.470	5.9	.451	6.9	.437	7.9	.425

Table 3. 振 動 倍 率 係 数

T/T_0 v	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
10.0	1.003	1.011	1.024	1.037	1.047	1.047	1.029	0.988	0.925	0.846
10.5	.003	.011	.022	.034	.042	.039	.019	.977	.913	.835
11.0	.003	.010	.020	.031	.037	.032	.009	.966	.902	.824
11.5	.002	.009	.019	.028	.032	.025	.001	.956	.892	.814
12.0	.002	.008	.017	.025	.027	.019	0.993	.947	.883	.806
12.5	.002	.008	.016	.022	.023	.013	.986	.939	.874	.798
13.0	.002	.007	.014	.020	.019	.009	.978	.931	.866	.791
13.5	.002	.007	.013	.017	.015	.002	.972	.924	.859	.784
14.0	.002	.006	.012	.015	.012	0.998	.966	.917	.852	.777
14.5	.002	.006	.011	.013	.009	.993	.961	.911	.846	.771
15.0	1.001	1.005	1.009	1.011	1.006	0.989	0.956	0.905	0.840	0.766
15.5	.001	.005	.008	.009	.003	.984	.951	.899	.835	.761
16.0	.001	.004	.007	.007	.000	.980	.946	.894	.829	.756
16.5	.001	.004	.006	.005	0.997	.977	.941	.889	.824	.751
17.0	.001	.003	.005	.004	.994	.974	.937	.885	.820	.747
17.5	.001	.003	.004	.002	.992	.970	.933	.880	.815	.743
18.0	.001	.003	.003	.001	.990	.967	.929	.876	.811	.739
18.5	.001	.002	.003	0.999	.987	.964	.925	.872	.807	.735
19.0	.001	.002	.002	.997	.985	.961	.921	.868	.803	.731
19.5	.001	.002	.001	.996	.983	.958	.918	.864	.799	.728
20.0	1.000	1.001	1.000	0.995	0.981	0.956	0.915	0.861	0.796	0.725
25.0	.000	0.998	0.994	.984	.964	.934	.890	.833	.768	.699
30.0	0.999	.996	.989	.976	.952	.918	.871	.814	.749	.681
35.0	.999	.994	.985	.969	.943	.906	.857	.799	.734	.667
40.0	.999	.993	.982	.964	.935	.897	.846	.787	.723	.657
45.0	.998	.992	.979	.959	.929	.887	.838	.778	.714	.649
50.0	.998	.991	.978	.956	.924	.882	.831	.770	.706	.641
23.1	1.000	0.999	0.996	0.987	0.970	0.941	0.898	0.842	0.777	0.707
∞	0.990	.962	.917	.862	.800	.735	.671	.610	.552	.500

Table 2. 訂 正 表

T/T_0	1.6	T/T_0	1.6
v		v	
8.0	0.424	9.0	0.415
8.1	.423	9.1	.414
8.2	.422	9.2	.414
8.3	.421	9.3	.413
8.4	.421	9.4	.412
8.5	.420	9.5	.411
8.6	.419	9.6	.411
8.7	.418	9.7	.410
8.8	.416	9.8	.409
8.9	.415	9.9	.408
		10.0	.408

T/T_0	0.9	1.0	1.2	1.4	1.9
v					
2.0		2.321			
2.3		1.951			
2.5					.355
4.0	1.332				
4.1	.312				
4.2	.296				
5.3			.828		
8.0	0.988				
9.5				.628	

\mathfrak{B}/V の 表 (1)

1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0	2.1
0.759	0.673	0.593	0.522	0.461	0.408	0.362	0.324	0.290	0.262	0.237
.749	.665	.587	.517	.457	.405	.360	.322	.289	.260	.236
.740	.657	.581	.513	.453	.402	.358	.320	.287	.259	.235
.732	.650	.575	.508	.449	.399	.355	.318	.286	.258	.234
.724	.644	.570	.504	.446	.396	.353	.316	.284	.257	.233
.717	.638	.565	.500	.443	.394	.351	.314	.283	.256	.232
.711	.633	.561	.497	.440	.391	.349	.313	.282	.255	.231
.705	.628	.557	.493	.437	.389	.348	.312	.281	.254	.231
.699	.623	.553	.490	.435	.387	.346	.310	.280	.253	.230
.694	.618	.549	.487	.433	.385	.344	.309	.279	.252	.229
0.689	0.614	0.546	0.484	0.430	0.384	0.343	0.308	0.278	0.251	0.229
.684	.611	.543	.482	.428	.382	.342	.307	.277	.251	.228
.680	.607	.540	.479	.426	.380	.340	.306	.276	.250	.227
.676	.604	.537	.477	.424	.379	.339	.305	.275	.249	.227
.672	.600	.534	.475	.423	.377	.338	.304	.274	.249	.226
.668	.597	.531	.473	.421	.376	.337	.303	.274	.248	.226
.665	.594	.529	.471	.419	.375	.336	.302	.273	.247	.225
.661	.591	.527	.469	.418	.373	.335	.301	.272	.247	.225
.658	.588	.524	.467	.416	.372	.334	.300	.272	.246	.224
.655	.586	.522	.465	.415	.371	.333	.300	.271	.246	.224
0.652	0.583	0.520	0.463	0.414	0.370	0.332	0.299	0.270	0.245	0.223
.630	.564	.504	.450	.402	.361	.325	.293	.265	.241	.220
.613	.550	.492	.441	.395	.354	.319	.289	.262	.238	.217
.602	.540	.484	.433	.389	.350	.315	.285	.259	.236	.215
.592	.532	.477	.428	.384	.346	.312	.282	.257	.234	.214
.585	.525	.471	.423	.380	.342	.310	.280	.255	.232	.213
.579	.520	.467	.419	.377	.340	.307	.278	.253	.231	.212
0.637	0.570	0.509	0.454	0.406	0.364	0.327	0.295	0.267	0.243	0.221
.452	.410	.372	.338	.308	.281	.257	.236	.216	.200	.185

Table 3. 振動倍率係數

T/T_0 v	2.2	2.3	2.4	2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2
2.0	0.252	0.227	0.205	0.187	0.170	0.156	0.144	0.133	0.123	0.115	0.107
2.5	.248	.223	.202	.184	.168	.155	.142	.132	.122	.114	.106
3.0	.244	.220	.199	.182	.166	.153	.141	.131	.121	.113	.106
3.5	.240	.217	.197	.180	.165	.152	.140	.130	.120	.112	.105
4.0	.236	.214	.195	.178	.163	.150	.139	.129	.120	.111	.104
4.5	.233	.211	.193	.176	.162	.149	.138	.128	.119	.111	.104
5.0	0.231	0.209	0.191	0.175	0.161	0.148	0.137	0.127	0.118	0.110	0.103
5.5	.229	.208	.189	.173	.159	.147	.136	.126	.118	.110	.103
6.0	.227	.206	.188	.172	.158	.146	.135	.126	.117	.109	.102
6.5	.225	.204	.187	.171	.157	.145	.135	.125	.117	.109	.102
7.0	.223	.203	.186	.170	.157	.145	.134	.125	.116	.109	.102
7.5	.221	.202	.185	.169	.156	.144	.134	.124	.116	.108	.101
8.0	.220	.201	.184	.169	.155	.144	.133	.124	.115	.108	.101
8.5	.219	.200	.183	.168	.155	.143	.133	.123	.115	.108	.101
9.0	.218	.199	.182	.167	.154	.143	.132	.123	.115	.107	.100
9.5	.217	.198	.181	.167	.154	.142	.132	.123	.115	.107	.100
10.0	0.216	0.196	0.180	0.166	0.153	0.142	0.132	0.122	0.114	0.107	0.100
10.5	.215	.196	.180	.165	.153	.141	.131	.122	.114	.107	.100
11.0	.214	.195	.179	.165	.152	.141	.131	.122	.114	.106	.100
11.5	.213	.195	.179	.164	.152	.141	.131	.122	.114	.106	.100
12.0	.212	.194	.178	.164	.151	.140	.130	.121	.113	.106	.099
12.5	.212	.193	.178	.164	.151	.140	.130	.121	.113	.106	.099
13.0	.211	.193	.177	.163	.151	.140	.130	.121	.113	.106	.099
13.5	.210	.192	.177	.163	.150	.139	.130	.121	.113	.106	.099
14.0	.210	.192	.176	.162	.150	.139	.129	.121	.113	.105	.099
14.5	.209	.191	.176	.162	.150	.139	.129	.120	.112	.105	.099
15.0	0.209	0.191	0.175	0.162	0.150	0.139	0.129	0.120	0.112	0.105	0.099
15.5	.208	.191	.175	.161	.149	.138	.129	.120	.112	.105	.099
16.0	.208	.190	.175	.161	.149	.138	.129	.120	.112	.105	.098
16.5	.207	.190	.174	.161	.149	.138	.128	.120	.112	.105	.098
17.0	.207	.189	.174	.161	.149	.138	.128	.120	.112	.105	.098
17.5	.206	.189	.174	.160	.148	.138	.128	.119	.112	.105	.098
18.0	.206	.189	.173	.160	.148	.137	.128	.119	.111	.104	.098
18.5	.205	.188	.173	.160	.148	.137	.128	.119	.111	.104	.098
19.0	.205	.188	.173	.160	.148	.137	.128	.119	.111	.104	.098
19.5	.205	.188	.173	.159	.148	.137	.127	.119	.111	.104	.098
20.0	0.204	0.187	0.172	0.159	0.147	0.137	0.127	0.119	0.111	0.104	0.098
25.0	.201	.185	.170	.157	.146	.135	.126	.118	.110	.103	.097
30.0	.199	.183	.169	.156	.145	.134	.125	.117	.109	.103	.096
35.0	.198	.182	.168	.155	.144	.134	.125	.116	.109	.102	.096
40.0	.196	.181	.167	.154	.143	.133	.124	.116	.109	.102	.096
45.0	.195	.180	.166	.154	.142	.133	.124	.116	.108	.102	.096
50.0	.194	.179	.165	.153	.142	.132	.123	.115	.108	.101	.095
23.1	0.202	0.186	0.171	0.158	0.146	0.136	0.127	0.118	0.110	0.103	0.097
∞	.171	.159	.148	0.138	.129	.121	.113	.106	.100	.094	.089

α/V の表 (2)

3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.5	5.0	5.5
0.100	0.094	0.088	0.083	0.078	0.074	0.070	0.066	0.052	0.041	0.034
.099	.093	.088	.082	.078	.073	.070	.066	.051	.041	.034
.099	.093	.087	.082	.077	.073	.069	.066	.051	.041	.034
.098	.092	.087	.082	.077	.073	.069	.065	.051	.041	.034
.098	.092	.086	.081	.077	.073	.069	.065	.051	.041	.034
.097	.091	.086	.081	.076	.072	.068	.065	.051	.041	.034
0.097	0.091	0.086	0.081	0.076	0.072	0.068	0.065	0.051	0.041	0.034
.096	.091	.085	.080	.076	.072	.068	.065	.051	.041	.034
.096	.090	.085	.080	.076	.072	.068	.065	.051	.041	.034
.096	.090	.085	.080	.075	.071	.068	.064	.051	.041	.034
.095	.090	.084	.080	.075	.071	.068	.064	.050	.041	.034
.095	.089	.084	.080	.075	.071	.067	.064	.050	.041	.034
.095	.089	.084	.079	.075	.071	.067	.064	.050	.041	.033
.095	.089	.084	.079	.075	.071	.067	.064	.050	.041	.033
.094	.089	.084	.079	.075	.071	.067	.064	.050	.041	.033
.094	.089	.084	.079	.075	.071	.067	.064	.050	.040	.033
0.094	0.088	0.083	0.079	0.075	0.071	0.067	0.064	0.050	0.040	0.033
.094	.088	.083	.079	.074	.070	.067	.063	.050	.040	.033
.094	.088	.083	.078	.074	.070	.067	.063	.050	.040	.033
.094	.088	.083	.078	.074	.070	.067	.063	.050	.040	.033
.093	.088	.083	.078	.074	.070	.067	.063	.050	.040	.033
.093	.088	.083	.078	.074	.070	.067	.063	.050	.040	.033
.093	.088	.083	.078	.074	.070	.066	.063	.050	.040	.033
.093	.088	.083	.078	.074	.070	.066	.063	.050	.040	.033
.093	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
.093	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
0.093	0.087	0.082	0.078	0.074	0.070	0.066	0.063	0.050	0.040	0.033
.093	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
.093	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
.092	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
.092	.087	.082	.078	.074	.070	.066	.063	.050	.040	.033
.092	.087	.082	.077	.073	.069	.066	.063	.050	.040	.033
.092	.087	.082	.077	.073	.069	.066	.063	.050	.040	.033
.092	.087	.082	.077	.073	.069	.066	.063	.049	.040	.033
.092	.087	.082	.077	.073	.069	.066	.063	.049	.040	.033
0.092	0.087	0.082	0.077	0.073	0.069	0.066	0.063	0.049	0.040	0.033
.091	.086	.081	.077	.073	.069	.065	.062	.049	.040	.033
.091	.086	.081	.076	.072	.069	.065	.062	.049	.040	.033
.090	.085	.081	.076	.072	.069	.065	.062	.049	.040	.033
.090	.085	.080	.076	.072	.068	.065	.062	.049	.040	.033
.090	.085	.080	.076	.072	.068	.065	.062	.049	.040	.033
.090	.085	.080	.076	.072	.068	.065	.062	.049	.040	.033
0.091	0.086	0.081	0.077	0.073	0.069	0.066	0.063	0.049	0.040	0.033
.084	.079	.075	.071	.068	.065	.062	.059	.047	.038	.032

Table 4. 振動倍率係數 \mathfrak{B}/V の表

T/T_0 v	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0
6.0	0.028	0.024	0.021	0.018	0.016	0.014	0.012	0.011	0.010
23.1	.028	.024	.020	.018	.016	.014	.012	.011	.010
∞	.027	.023	.020	.017	.015	.014	.012	.011	.010