Digital Computer Analysis of Influence Coefficients for Deflection and Bending Moment of Orthotropic Parallelogram Plates

By

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The skew network finite difference equation for the differential equation of equilibrium on the middle surface of the orthotropic parallelogram plate, expressed in Cartesian coordinates,

$$B_x\frac{\partial^4 w}{\partial x^4}+2H\frac{\partial^4 w}{\partial x^2\partial y^2}+B_y\frac{\partial^4 w}{\partial y^4}=p$$

was proposed for the general case, $0\leqq\kappa=H/\sqrt{B_xB_y}\leqq1$, and for the special boundary conditions where the plate is supported simply at the two opposite skew sides and supported by flexible girders at the other two sides. Dividing the parallelogram plate into six equidistant lengths in the direction of the span and also perpendicular to the span, and then applying the skew network finite difference equation, the influence coefficients of deflection and bending moment were calculated by the use of digital computers, UNIVAC-120 and Bendix G-15D, for the two cases of variables.

1. Introduction

From the fact that the distribution coefficients proposed by Y. Guyon and C. Massonnet for the orthotropic rectangular plate is very effective in the experimental stress analysis and design calculation of right girder bridges, it may be assumed that the theory of orthotropic plates is also effective to the same degree in the analysis of skew girder bridges. From this point of view, the authors have proposed the rectangular, as well as skew, network difference equations for the orthotropic parallelogram plates in the special case of $\kappa=H/\sqrt{B_xB_y}=1$ and the effectiveness of this method in the analysis of skew girder bridges was clarified by experimental researches carried out on models of skew girder bridges[1,2].

Here, the authors will describe the skew network finite difference equation for the orthotropic parallelogram plate, for the general case of $0\leqq\kappa\leqq1$, simply supported on the two opposite sides and supported by flexible girders on the other two sides,

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and also describe the examples of calculation by the use of UNIVAC-120 and Bendix G-15D digital computers for two cases.

2. Induction of the Skew Network Finite Difference Equation

The differential equation of equilibrium on the middle surface of the orthotropic plate can be expressed in Cartesian coordinates as follows (See Fig. 1);

$$B_x\frac{\partial^2 w}{\partial x^4}+2H\frac{\partial^4 w}{\partial x^2\partial y^2}+B_y\frac{\partial^4 w}{\partial y^4}=p \qquad (1)_1$$

$$\kappa=H/\sqrt{B_xB_y}. \qquad (1)_2$$

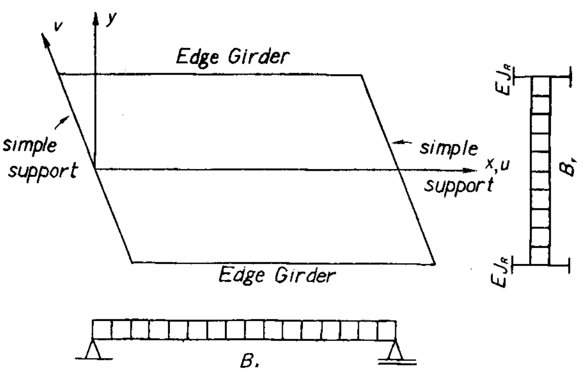


Fig. 1.

The above differential equation can be written as

$$\left(\frac{\partial^2}{\partial x^2}+m\frac{\partial^2}{\partial y^2}\right)\left(\frac{\partial^2 w}{\partial x^2}+n\frac{\partial^2 w}{\partial y^2}\right)=\frac{p}{B_x} \qquad (2)$$

where, $m=(\kappa+i\sqrt{1-\kappa^2})\alpha$, $n=(\kappa-i\sqrt{1-\kappa^2})\alpha$, $\alpha=\sqrt{B_y/B_x}$.

Eq. (2) can also be rewritten by the following two differential equations

$$\frac{\partial^2 w}{\partial x^2}+n\frac{\partial^2 w}{\partial y^2}=U \qquad (3)_1$$

$$\frac{\partial^2 U}{\partial x^2}+m\frac{\partial^2 U}{\partial y^2}=\frac{p}{B_x}. \qquad (3)_2$$

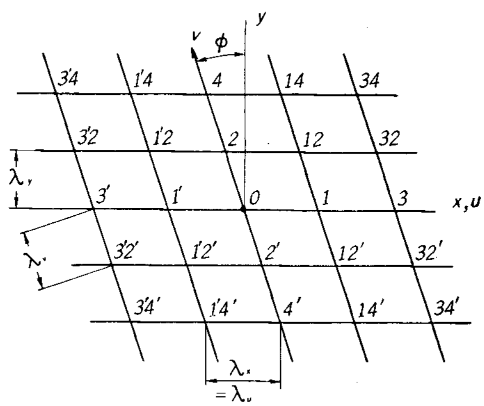


Fig. 2.

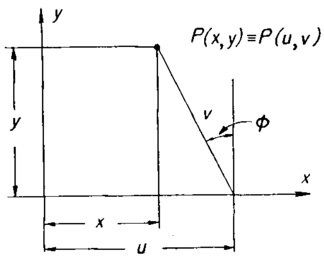


Fig. 3.

According to Figs. 2 and 3, eq. (3) can be described by the following two finite difference equations of skew network.

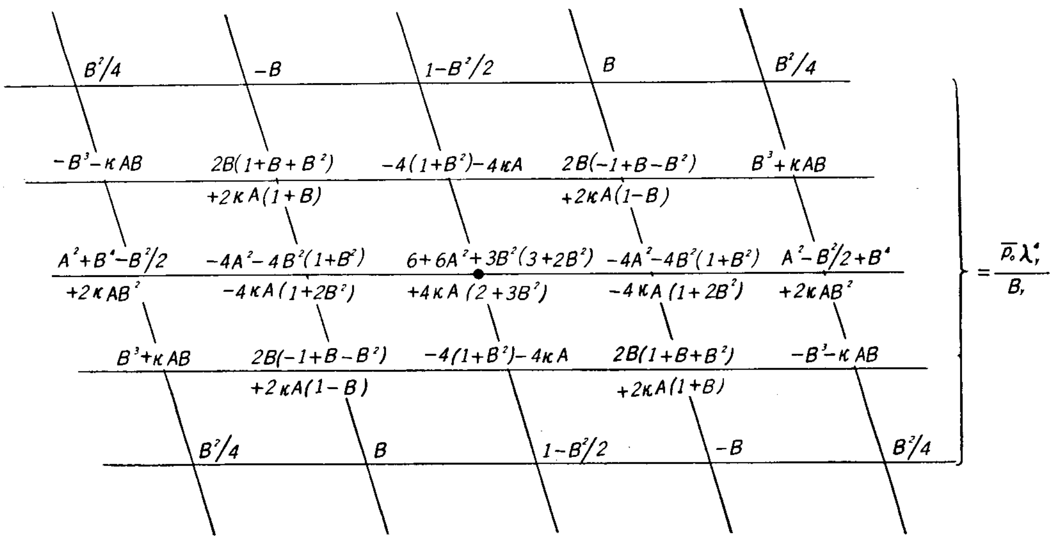
$$\lambda_y^2 U_0=A_1(w_{1'}+w_1)-2(A_1+n)w_0+\frac{1}{2}B_1(-w_{1'2}+w_{12}+w_{1'2'}-w_{12'})+n(w_{2'}+w_2) \qquad (4)_1$$

$$\lambda_y^2\frac{\bar{p}_0}{B_x}=A_2(U_{1'}+U_1)-2(A_2+m)U_0+\frac{1}{2}B_2(-U_{12'}+U_{12}+U_{1'2'}-U_{12'})+m(U_{2'}+U_2) \qquad (4)_2$$

where, $K=\lambda_y/\lambda_x$

$$A_1 = K^2(1+n\tan\varphi),\quad A_2 = K^2(1+m\tan\varphi),\quad B_1 = nK\tan\varphi,\quad B_2 = mK\tan\varphi\,.$$

Combining eqs. $(4)_1$ and $(4)_2$, the finite difference equation for a general interior point can be obtained as eq. (A).



(A) Finite difference equation for general interior point.

Omitting the induction of the finite difference equations for interior points near the simple support, interior points near the edge girder, interior points near the sharp and blunt corners, general edge point and edge points near the sharp and blunt corners, only the results of induction of the finite difference equation for each point are shown by eqs. (B), (C), (D), (E), (F), (G), (H) and (I).

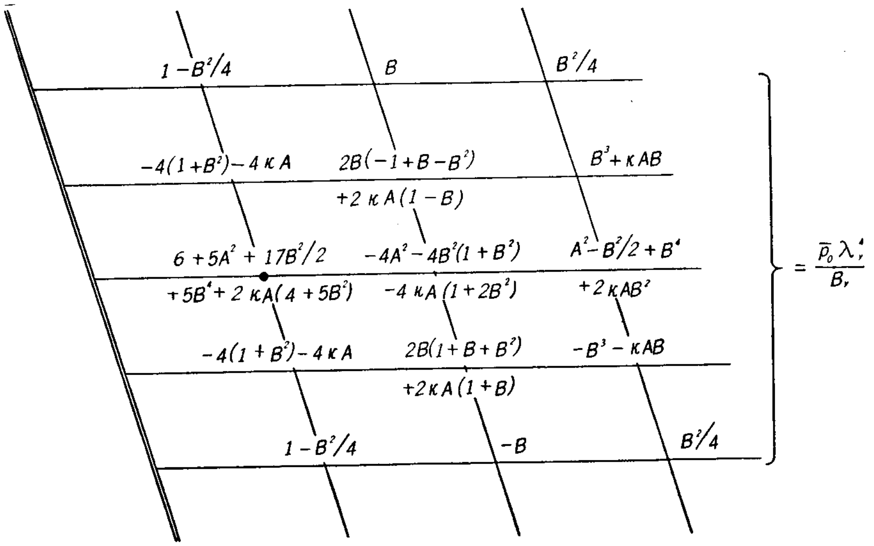
In these equations, the following notations are used.

$$A = \frac{\kappa^2}{\alpha},\quad B = K\tan\varphi,\quad \kappa = \frac{H}{\sqrt{B_x B_y}},\quad J = \frac{EJ_R}{B_y\lambda_y}K^4\,.$$

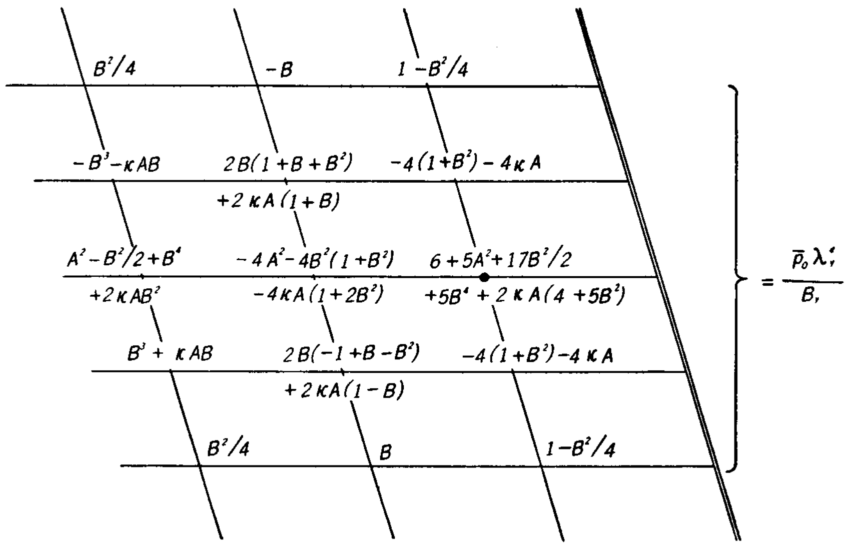
The values of A and κ correspond to 2θ and α defined by Y. Guyon and C. Massonnet.

In these equations, the quantity $\bar{p}_0$ is the equivalent combined effects in terms of load per unit area for all the loads that act at the point considered (0). Thus, if at the point 0 there is a uniformly distributed load of p_0 per unit area, a line load of q_0 per unit length in the direction of the load, and a concentrated load of P_0, then $\bar{p}_0$ is given by

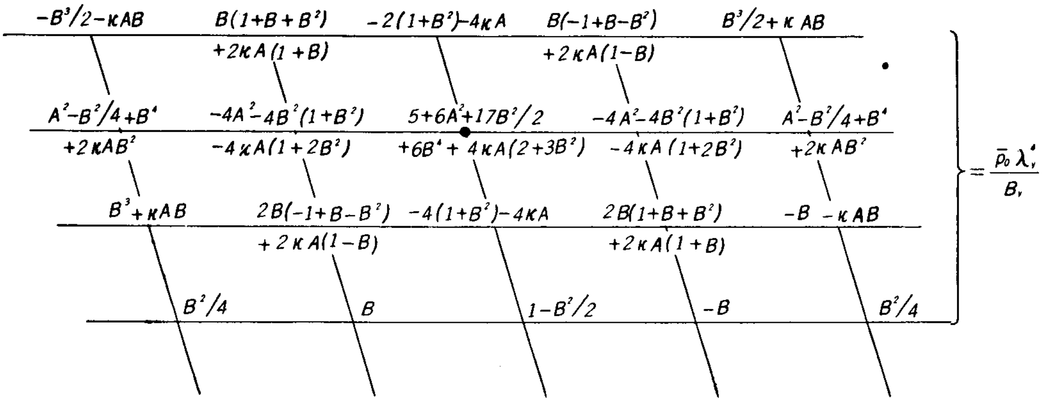
$$\bar{p}_0 = p_0+\frac{q_0}{\lambda_y}+\frac{P_0}{\lambda_x\lambda_y} = p_0+\frac{q_0}{\lambda_y}+\frac{KP_0}{\lambda_y^2}\,.$$



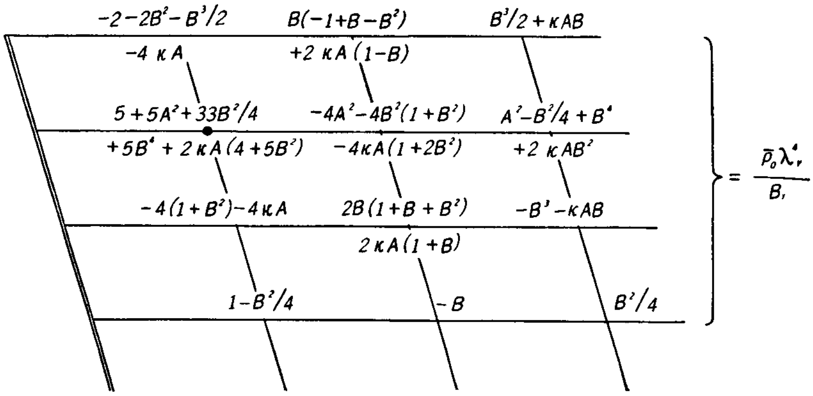
(B) Finite difference equation for interior point near the left simple support.



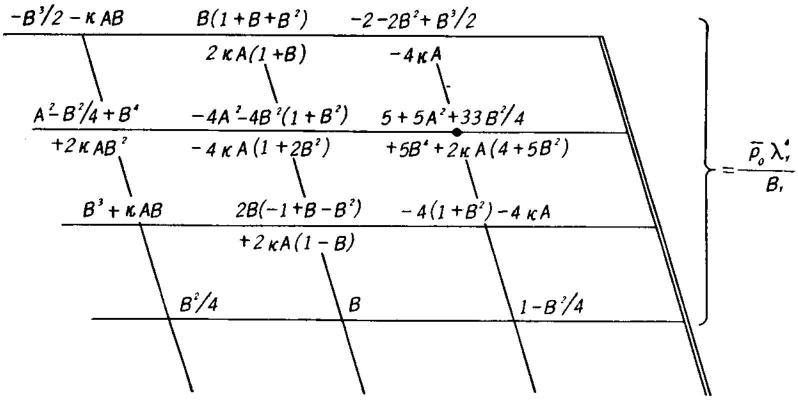
(C) Finite difference equation for interior point near the right simple support.



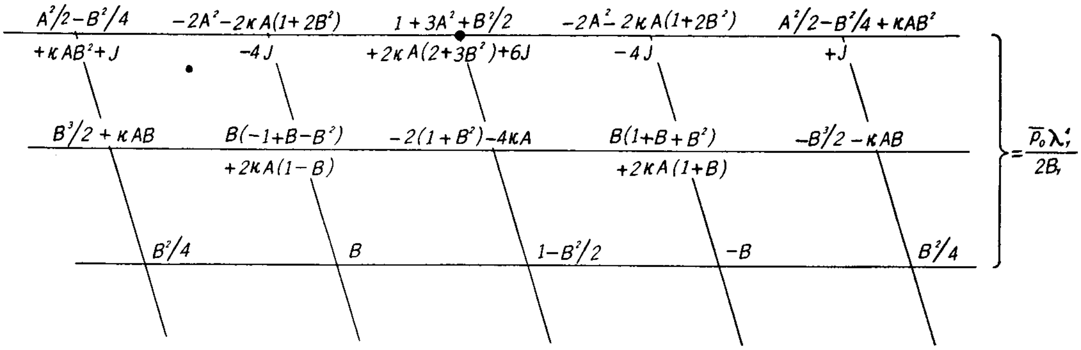
(D) Finite difference equation for interior point near the edge girder.



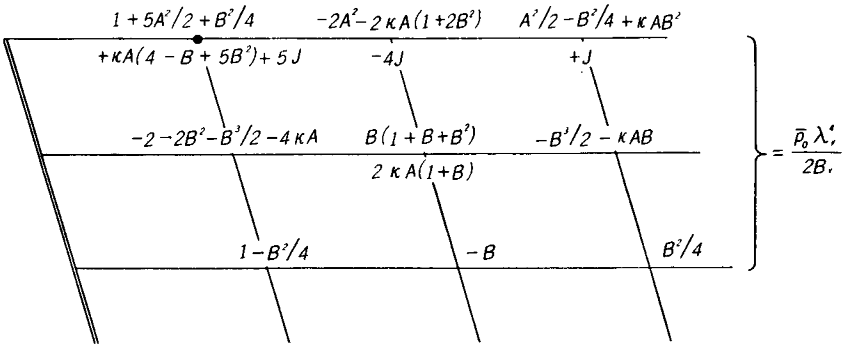
(E) Finite difference equation for interior point near the sharp corner.



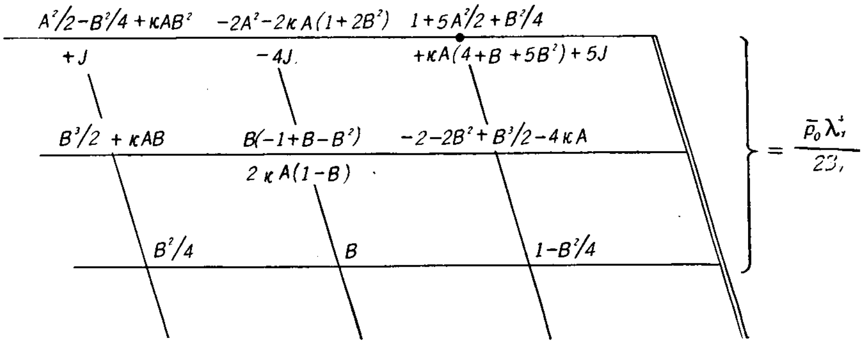
(F) Finite difference equation for interior point near the blunt corner.



(G) Finite difference equation for general edge point.



(H) Finite difference equation for edge point near the sharp corner.



(I) Finite difference equation for edge point near the blunt corner.

If point 0 lies on an exterior edge of the plate, $\bar{p}_0$ is given by

$$\bar{p}_0 = p_0+\frac{q_0}{\frac{1}{2}\lambda_y}+\frac{P_0}{\frac{1}{2}\lambda_x\lambda_y} = p_0+\frac{2q_0}{\lambda_y}+\frac{2KP_0}{\lambda_y^2}.$$

If we assume $B_x=B_y$ and $\kappa=1$, the above nine equations become equal to those given by T. Y. Chen, C. P. Siess and N. M. Newmark[3]. Moreover, if we assume $\kappa=1$, the above nine become equal to those given by the authors[2].

If the values of deflection at each network point are known, the bending moment in the x- and y-directions for the general interior point, an edge point and a point on the simple support can be obtained as follows. For these derivations, only the final results are shown and Poisson's ratio ν_x and ν_y were assumed to be zero.

a) General interior point (see Fig. 2)

$$M_x = -\frac{K^2}{\lambda_y^2}B_x(w_{1'}-2w_0+w_1) \tag{5$_1$}$$

$$M_y = -\frac{1}{\lambda_y^2}B_y\Big[B^2(w_{1'}-2w_0+w_1)+\frac{1}{2}B(-w_{1'2}+w_{12}+w_{1'2'}-w_{12'}) + (w_{2'}-2w_0+w_2)\Big] \tag{5$_2$}$$

$$M_{xy} = -\frac{K}{\lambda_y^2}\kappa\alpha B_x\Big[B(w_{1'}-2w_0+w_1)+\frac{1}{4}(-w_{1'2}+w_{12}+w_{1'2'}-w_{12'})\Big] \tag{5$_3$}$$

b) Point on the left simple support (see Fig. 4)

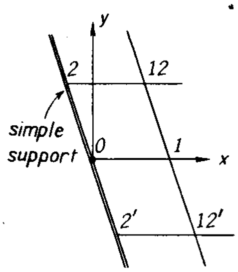


Fig. 4.

$$M_x = -\frac{K^2}{\lambda_y^2}B_x z(w_{12'}-w_{12}) \tag{6$_1$}$$

$$M_y = -\frac{1}{\lambda_y^2}B_y(B^2z-B)(w_{12'}-w_{12}) \tag{6$_2$}$$

$$M_{xy} = -\frac{K}{\lambda_y^2}\kappa\alpha B_x\left(Bz-\frac{1}{2}\right)(w_{12'}-w_{12}) \tag{6$_3$}$$

where,

$$z = \frac{\kappa\frac{B}{A}+\frac{B^3}{A^2}}{1+2\kappa\frac{B^2}{A}+\frac{B^4}{A^2}}.$$

c) Point on the right simple support

For the point on the right simple support, the term $(w_{12'}-w_{1'2'})$ is used instead of the term $(w_{12'}-w_{12})$ in eq. (6).

d) Edge point (see Fig. 5)

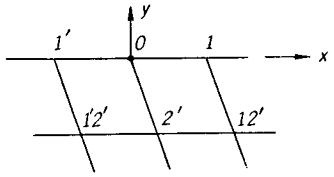


Fig. 5.

$$M_x = -\frac{K^2}{\lambda_y^2}B_x(w_1-2w_0+w_{1'}) \tag{7$_1$}$$

$$M_y = 0 \tag{7$_2$}$$

$$M_{xy} = -\frac{K}{\lambda_y^2}\kappa\alpha B_x\left[B(w_{1'}-2w_0+w_1)+\frac{1}{2}(-w_{1'}+w_1+w_{1'2'}-w_{12'})\right]. \tag{7$_3$}$$

3. Calculation of the Influence Coefficients for Deflection and Bending Moment

Applying the above nine finite difference equations for each network point, simultaneous equations can be obtained. If the parallelogram plate is divided into six equidistant lengths in the direction of the span as well as in the direction perpendicular to the span (see Fig. 6), unknown terms are the deflections at $(6-1)\times(6+1)=35$ network points. It is difficult to solve the simultaneous linear equations of 35 elements by the use of a digital computer. Therefore, it is better to reduce the unknown terms into two parts of 18 and 17 elements, respectively, by adopting the loading states symmetrical and anti-symmetrical about the diagonal.

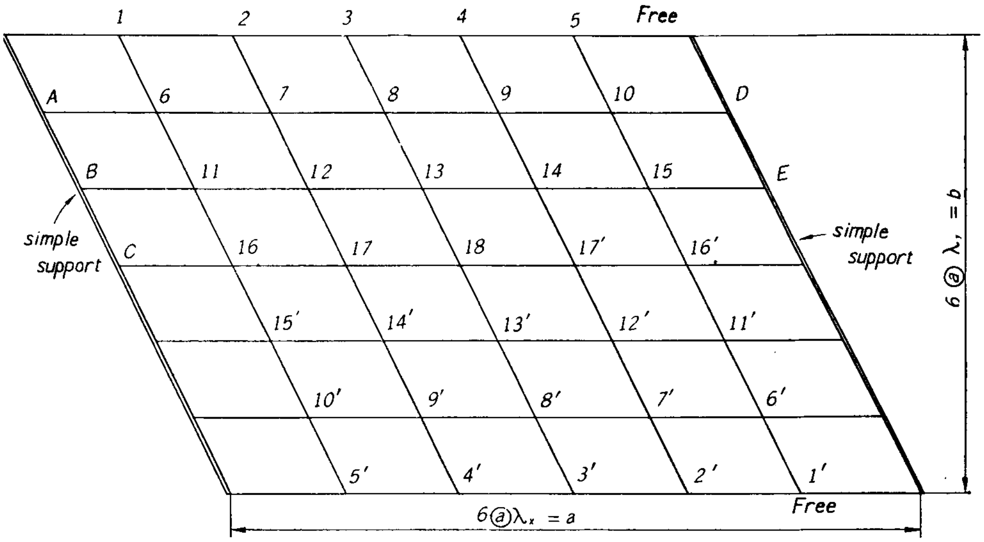


Fig. 6.

The finite difference equations can be obtained for each network point for both loading states described above. If the elements of the stiffness matrix consisting of the coefficients of the unknown terms are obtained, the inverse matrix of the above stiffness matrix, the so-called "flexibility matrix", can be calculated by the digital computer. The elements of the flexibility matrix correspond to the influence coefficients of the deflection. If the values of the deflection at each network point are known, the bending moment in the x- and y-directions can be obtained by eqs. (5), (6) and (7).

4. Table of Influence coefficients for Deflection and Bending Moment

It can be said without doubt that the finer the network becomes, the better the results that can be obtained. However, considering both the labour required for the calculation and the practicality of the procedure, the skew network shown in Fig. 6 was adopted. The network points were numbered as shown in Fig. 6.

The authors are now calculating table of influence coefficients for combinations of $A=1, 4, 9, 16, 25, 36$; $B=0.5, 1, 1.5, 2$ and $\kappa=0, 1$; $J=0$. The total number of combinations is 48. Here, the results of computer analyses in the cases of $J=0$; $A=9, 16$; $B=1$, and $\kappa=0, 1$ are shown in Tables 1∼16. In the calculation of the inverse matrix, UNIVAC-120 and Bendix G-15D computers were used.

Results of calculations for other cases will be presented later in succeeding reports.

5. Conclusion

The skew network finite difference equations were derived for the orthotropic parallelogram plate simply supported on the two opposite skew sides and supported by flexible girders on the other two sides, and the results of calculation of the influence coefficients for deflection and bending moment were shown in cases of $J=0$; $A=9, 16$; $B=1$ and $\kappa=0, 1$. Tables of the influence coefficients for deflection and bending moment in the cases of other values of A, B and κ will be reported soon. These tables will be helpful in experimental research and in design calculations of skew girder bridges.

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References

1) M. Naruoka und H. Yonezawa, Bauingenieur, **32** (1957), S. 391.
2) M. Naruoka and H. Omura, Mem. of Fac. of Eng., Kyoto Univ., **21** (1958), p. 138.
3) T. Y. Chen, C. P. Siess and N. M. Newmark, Univ. of Illinois Bull., No. 439 (1957).

Table 1. Influence Coefficients of Deflection for the case of $A=9$, $B=1$ and $\kappa=0$ (unit: $10^{-6}Pa^2/KB_x$)

Point	w_1	w_2	w_3	w_4	w_5	w_6	w_7	w_8	w_9	w_{10}	w_{11}	w_{12}	w_{13}	w_{14}	w_{15}	w_{16}	w_{17}	w_{18}
1	71 191	100 187	98 918	76 887	41 746	10 772	17 039	17 948	14 262	7 647	—467	—367	—8	260	231	—750	—1 131	—1 118
2	100 187	169 942	177 070	140 914	77 342	18 689	30 112	32 012	25 563	13 731	—982	—1 024	—436	122	227	—1 422	—2 160	—2 152
3	98 918	177 070	212 187	178 134	100 065	21 544	35 353	38 314	30 924	16 681	—1 358	—1 738	—1 234	—467	—65	—1 840	—2 829	—2 850
4	76 887	140 914	178 134	171 797	101 732	18 651	31 021	34 266	28 190	15 328	—1 359	—1 971	—1 767	—1 076	—433	—1 784	—2 776	—2 835
5	41 746	77 342	100 065	101 732	72 365	10 802	18 116	20 275	16 975	9 389	—887	—1 383	—1 401	—1 032	—515	—1 137	—1 787	—1 847
6	10 772	18 689	21 544	18 651	10 802	29 034	39 288	37 469	28 306	15 052	6 801	10 760	11 362	9 091	4 932	764	1 405	1 670
7	17 039	30 112	35 353	31 021	18 116	39 288	66 451	67 557	52 508	28 302	12 023	19 505	20 843	16 781	9 128	1 386	2 497	2 964
8	17 948	32 012	38 314	34 266	20 275	37 469	67 557	81 498	67 571	37 475	14 023	23 348	25 619	20 929	11 455	1 679	2 940	3 442
9	14 262	25 563	30 924	28 190	16 975	28 306	52 508	67 571	66 477	39 304	12 294	20 811	23 434	19 654	10 885	1 531	2 613	2 984
10	7 647	13 731	16 681	15 328	9 389	15 052	28 302	37 475	39 304	29 046	7 202	12 329	14 133	12 145	6 894	927	1 552	1 728
11	—467	—982	—1 358	—1 359	—887	6 801	12 023	14 023	12 294	7 202	27 838	37 250	35 185	26 389	13 975	6 668	10 519	11 073
12	—369	—1 024	—1 738	—1 971	—1 383	10 760	19 505	23 348	20 811	12 329	37 250	62 903	63 504	49 058	26 352	11 735	18 990	20 235
13	—8	—436	—1 234	—1 767	—1 401	11 362	20 843	25 619	23 434	14 133	35 185	63 504	76 737	63 424	35 099	13 645	22 644	24 794
14	260	122	—467	—1 076	—1 032	9 091	16 781	20 929	19 654	12 145	26 387	49 058	63 424	62 763	37 133	11 898	20 114	22 621
15	231	227	—65	—433	—515	4 932	9 128	11 455	10 885	6 894	13 975	26 352	35 099	37 133	27 749	6 950	11 888	13 620
16	—750	—1 422	—1 840	—1 784	—1 137	764	1 386	1 679	1 531	927	6 668	11 735	13 645	11 898	6 950	27 630	36 910	34 820
17	—1 131	—2 160	—2 829	—2 776	—1 787	1 405	2 497	2 940	2 613	1 552	10 519	18 990	22 644	20 114	11 838	36 910	62 346	62 904
18	—1 118	—2 152	—2 850	—2 835	—1 847	1 670	2 964	3 442	2 984	1 728	11 073	20 235	24 794	22 621	13 620	34 820	62 904	76 089
17′	—835	—1 616	—2 161	—2 173	—1 432	1 455	2 588	3 003	2 572	1 451	8 834	16 251	20 214	18 951	11 702	26 096	48 578	
16′	—431	—830	—1 128	—1 142	—758	827	1 472	1 714	1 466	812	4 784	8 826	11 050	10 487	6 644	13 820	26 096	
15′	—233	—429	—537	—507	—315	—143	—283	—390	—400	—266	806	1 444	1 726	1 555	932	6 644	11 702	
14′	—377	—696	—874	—825	—514	—183	—374	—540	—577	—395	1 467	2 579	3 004	2 643	1 555	10 487	18 951	
13′	—404	—742	—939	—888	—554	—142	—305	—469	—530	—378	1 729	3 039	3 497	3 004	1 726	11 050	20 214	
12′	—323	—600	—757	—718	—449	—76	—176	—295	—358	—269	1 497	2 638	3 039	2 579	1 444	8 826	16 251	
11′	—175	—325	—422	—391	—245	—29	—72	—133	—170	—133	848	1 497	1 729	1 467	806	4 784	8 834	
10′	—36	—63	—73	—62	—35	—107	—201	—257	—247	—157	—133	—269	—378	—395	—266	812	1 451	
9′	—63	—111	—129	—111	—63	—168	—316	—404	—390	—247	—170	—358	—530	—577	—400	1 466	2 572	
8′	—73	—128	—150	—131	—75	—172	—325	—418	—404	—257	—133	—295	—467	—540	—390	1 714	3 006	
7′	—61	—109	—129	—114	—65	—133	—252	—325	—316	—201	—72	—176	—305	—374	—283	1 472	2 588	
6′	—35	—61	—72	—64	—37	—71	—133	—172	—168	—107	—29	—76	—142	—183	—143	827	1 455	
5′	25	48	64	64	42	—37	—65	—75	—63	—35	—245	—449	—554	—514	—315	—758	—1 432	
4′	38	72	96	97	64	—64	—114	—131	—111	—62	—391	—718	—888	—825	—507	—1 142	—2 173	
3′	37	71	96	96	64	—71	—129	—150	—129	—73	—422	—757	—939	—874	—537	—1 128	—2 161	
2′	27	53	71	72	48	—61	—109	—128	—111	—63	—325	—600	—746	—696	—429	—839	—1 616	
1′	14	27	37	38	25	—35	—61	—73	—63	—36	—175	—323	—404	—377	—233	—431	—835	

Table 2. Influence Coefficient of Deflection for the case of $A=9$, $B=1$ and $\kappa=1$ (unit: $10^{-6}Pa^2/KB_x$)

Point	w_1	w_2	w_3	w_4	w_5	w_6	w_7	w_8	w_9	w_{10}	w_{11}	w_{12}	w_{13}	w_{14}	w_{15}	w_{16}	w_{17}	w_{18}
1	43 745	57 822	54 119	40 016	20 605	12 230	16 908	15 956	11 489	5 564	3 090	4 353	4 118	2 938	1 401	752	1 063	1 004
2	58 822	95 988	95 599	72 613	37 880	20 832	31 101	30 133	22 012	10 771	5 848	8 471	8 118	5 844	2 808	1 496	2 141	2 037
3	54 119	95 599	113 625	91 917	49 275	23 071	36 640	38 078	28 686	14 244	7 234	10 842	10 699	7 820	3 790	1 967	2 863	2 762
4	40 016	72 613	91 917	89 246	51 081	19 206	31 706	35 062	28 406	14 506	6 634	10 245	10 474	7 887	3 871	1 920	2 847	2 796
5	20 605	37 880	49 275	51 081	37 673	10 795	18 253	21 005	18 180	10 125	4 043	6 388	6 734	5 255	2 657	1 240	1 870	1 871
6	12 230	20 832	23 071	19 206	10 795	20 648	27 611	26 068	19 413	10 088	6 667	9 442	9 117	6 726	3 349	1 864	2 685	2 594
7	16 908	31 101	36 640	31 706	18 253	27 611	46 663	46 961	35 992	18 999	11 665	17 769	17 584	13 143	6 602	3 599	5 307	5 181
8	15 956	30 133	38 078	35 062	21 005	26 068	46 961	56 480	46 181	25 115	13 194	21 305	22 511	17 316	8 814	4 518	6 866	6 877
9	11 489	22 012	28 686	28 406	18 180	19 413	35 992	46 181	45 303	26 331	11 198	18 758	21 003	17 267	9 015	4 202	6 558	6 774
10	5 564	10 771	14 244	14 506	10 125	10 088	18 999	25 115	26 331	19 591	6 430	11 019	12 807	11 181	6 300	2 601	4 142	4 396
11	3 090	5 848	7 234	6 634	4 043	6 667	11 665	13 194	11 198	6 430	18 431	24 178	25 561	16 740	8 742	5 980	8 419	8 107
12	4 353	8 471	10 842	10 245	6 388	9 442	17 769	21 305	18 758	11 019	24 178	41 136	41 128	31 444	16 671	10 519	16 028	15 839
13	4 118	8 118	10 699	10 474	6 734	9 117	17 584	22 511	21 003	12 807	22 561	41 128	50 055	40 992	22 402	11 931	19 347	20 506
14	2 938	5 844	7 820	7 887	5 255	6 726	13 143	17 316	17 267	11 181	16 740	31 444	40 992	40 899	23 968	10 169	17 133	19 304
15	1 401	2 808	3 790	3 871	2 657	3 349	6 602	8 814	9 015	6 300	8 742	16 671	22 402	23 968	18 264	5 882	10 145	11 879
16	752	1 496	1 967	1 920	1 240	1 864	3 599	4 518	4 202	2 601	5 980	10 519	11 931	10 169	5 882	18 178	23 788	22 164
17	1 063	2 141	2 863	2 847	1 870	2 685	5 307	6 866	6 558	4 142	8 419	16 028	19 347	17 133	10 145	23 788	40 529	40 505
18	1 004	2 037	2 762	2 796	1 871	2 594	5 181	6 877	6 774	4 396	8 107	15 839	20 506	19 304	11 879	22 164	40 505	49 412
17′	712	1 454	1 987	2 039	1 388	1 889	3 798	5 106	5 162	3 454	5 983	11 844	15 800	15 956	10 454	16 441	30 974	
16′	337	692	951	982	676	918	1 857	2 513	2 567	1 761	2 987	5 964	8 062	8 358	5 930	8 595	16 441	
15′	179	366	498	505	339	490	985	1 303	1 280	833	1 683	3 286	4 162	3 902	2 439	5 930	10 454	
14′	253	521	715	733	497	706	1 431	1 920	1 915	1 264	2 424	4 855	6 345	6 116	3 902	8 358	15 956	
13′	238	493	682	706	484	678	1 382	1 875	1 898	1 273	2 346	4 749	6 374	6 345	4 162	8 062	15 800	
12′	169	351	487	507	351	489	1 001	1 366	1 399	851	1 713	3 491	4 749	4 855	3 286	5 964	11 844	
11′	79	166	231	242	168	235	482	661	680	467	837	1 713	2 346	2 424	1 683	2 987	5 983	
10′	44	91	126	131	90	129	265	360	365	245	467	951	1 273	1 264	833	1 761	3 454	
9′	62	130	182	190	132	187	385	526	511	365	680	1 399	1 898	1 915	1 280	2 567	5 162	
8′	59	124	174	183	128	180	372	511	526	360	661	1 366	1 875	1 920	1 303	2 513	5 106	
7′	42	89	125	132	92	130	269	372	385	265	482	1 001	1 382	1 431	985	1 857	3 798	
6′	20	42	60	63	45	63	130	180	187	129	235	489	678	706	490	918	1 889	
5′	14	30	42	44	31	45	92	128	132	90	168	351	484	497	339	676	1 388	
4′	20	42	59	63	44	63	132	183	190	131	242	507	706	733	505	982	2 039	
3′	18	39	56	59	42	60	125	174	182	126	231	489	682	715	498	951	1 987	
2′	13	27	39	42	30	42	89	124	130	91	166	351	493	521	366	692	1 454	
1′	6	13	18	20	14	20	42	59	62	44	79	169	238	253	179	337	712	

Table 3. Influence Coefficients of Deflection for the Case of $A=16$, $B=1$ and $\kappa=0$ (unit: $10^{-6}Pa^2/KB_x$)

Point	w_1	w_2	w_3	w_4	w_5	w_6	w_7	w_8	w_9	w_{10}	w_{11}	w_{12}	w_{13}	w_{14}	w_{15}	w_{16}	w_{17}	w_{18}
1	78 662	112 802	112 928	88 530	48 220	5 581	9 058	9 784	7 958	4 356	—1 142	—1 720	—1 712	—1 287	— 671	—342	— 551	— 586
2	112 802	191 484	201 245	161 145	88 630	9 745	16 009	17 399	14 201	7 783	—2 100	—3 222	—3 237	—2 451	—1 281	—627	—1 011	—1 076
3	112 928	201 245	239 734	201 482	113 182	11 326	18 835	20 733	17 044	9 370	—2 597	—4 079	—4 185	—3 209	—1 688	—778	—1 258	—1 345
4	88 530	161 145	201 482	191 896	113 143	9 873	16 573	18 478	15 382	8 502	—2 398	—3 846	—4 047	—3 170	—1 683	—725	—1 177	—1 262
5	48 220	88 630	113 182	113 143	78 919	5 742	9 694	10 906	9 185	5 132	—1 463	—2 384	—2 562	—2 055	—1 112	—447	— 727	— 782
6	5 581	9 745	11 326	9 873	5 742	35 158	49 401	48 600	37 584	20 288	4 414	7 192	7 799	6 378	3 517	—147	— 165	— 102
7	9 058	16 009	18 835	16 573	9 694	49 401	83 739	86 976	68 895	37 606	7 801	12 887	14 073	11 553	6 381	—282	— 351	— 250
8	9 784	17 399	20 733	18 478	10 906	48 600	86 976	104 046	87 029	48 656	9 155	15 339	17 004	14 079	7 806	—368	— 509	— 427
9	7 958	14 201	17 044	15 382	9 185	37 584	68 895	87 029	83 832	49 477	8 051	13 634	15 344	12 896	7 200	—355	— 531	— 503
10	4 356	7 783	9 370	8 502	5 132	20 288	37 606	48 656	49 477	35 215	4 721	8 051	9 159	7 807	4 419	—224	— 352	— 361
11	—1 142	—2 100	—2 597	—2 398	—1 463	4 414	7 801	9 155	8 051	4 721	34 355	48 008	47 006	36 219	19 509	4 305	7 007	—7 591
12	—1 720	—3 222	—4 079	—3 846	—2 384	7 192	12 887	15 339	13 634	8 051	48 008	81 296	84 150	66 457	36 210	7 601	12 548	13 692
13	—1 712	—3 237	—4 185	—4 047	—2 562	7 799	14 073	17 004	15 344	9 159	47 006	84 150	100 726	84 127	46 982	8 913	14 928	16 541
14	—1 287	—2 451	—3 209	—3 170	—2 055	6 378	11 553	14 079	12 896	7 807	36 219	66 457	84 127	81 257	47 975	7 832	13 264	14 926
15	— 671	—1 281	—1 688	—1 683	—1 112	3 517	6 381	7 806	7 200	4 419	19 509	36 210	46 982	47 975	34 330	4 592	7 831	8 910
16	— 342	— 627	— 778	— 725	— 447	—147	—282	—368	—355	—224	4 305	7 601	8 913	7 832	4 592	34 287	47 898	46 886
17	— 551	—1 011	—1 258	—1 177	— 727	—165	—351	—509	—531	—352	7 007	12 548	14 928	13 264	7 831	47 898	81 115	83 953
18	— 586	—1 078	—1 345	—1 262	— 782	—102	—250	—427	—503	—361	7 591	13 692	16 541	14 926	8 910	46 886	83 953	100 512
17′	— 470	— 865	—1 081	—1 017	— 633	— 31	—111	—244	—341	—273	6 204	11 233	13 690	12 545	7 598	36 123	66 297	
16′	— 255	— 471	— 589	— 555	— 346	2	— 29	— 97	—157	—140	3 420	6 202	7 589	7 004	4 303	19 456	36 123	
15′	— 25	— 43	— 51	— 45	— 27	—156	—287	—359	—337	—209	— 136	— 264	— 349	— 339	— 215	4 303	7 598	
14′	— 44	— 76	— 90	— 80	— 46	—247	—456	—523	—541	—337	— 149	— 324	— 480	— 507	— 339	7 004	12 545	
13′	— 50	— 89	— 105	— 93	— 54	—258	—478	—603	—572	—358	— 87	— 225	— 399	— 480	— 349	7 589	13 690	
12′	— 43	— 76	— 91	— 80	— 47	—203	—376	—476	—452	—285	— 20	— 92	— 225	— 324	— 264	6 202	11 233	
11′	— 25	— 43	— 52	— 46	— 27	—109	—202	—256	—245	—154	7	— 20	— 87	— 149	— 136	3 420	6 204	
10′	7	12	16	16	10	— 24	— 42	— 52	— 47	— 28	— 154	— 285	— 358	— 337	— 209	— 140	— 273	
9′	10	19	24	23	16	— 39	— 71	— 85	— 77	— 47	— 245	— 452	— 572	— 541	— 337	— 157	— 341	
8′	10	19	24	24	15	— 44	— 78	— 94	— 85	— 52	— 256	— 476	— 603	— 573	— 359	— 97	— 244	
7′	7	14	18	18	12	— 36	— 65	— 78	— 71	— 42	— 202	— 376	— 478	— 456	— 287	— 29	— 111	
6′	4	7	10	10	6	— 20	— 36	— 44	— 39	— 24	— 109	— 203	— 258	— 247	— 156	2	— 31	
5′	3	6	8	7	5	6	12	15	16	10	— 27	— 47	— 54	— 46	— 27	— 346	— 633	
4′	6	11	12	12	7	10	18	24	23	16	— 46	— 80	— 93	— 80	— 45	— 555	—1 017	
3′	6	11	13	12	8	10	18	24	24	16	— 52	— 91	— 105	— 90	— 51	— 589	—1 081	
2′	5	9	11	11	6	7	14	19	19	12	— 43	— 76	— 89	— 76	— 43	— 471	— 865	
1′	3	5	6	6	3	4	7	10	10	7	— 25	— 43	— 50	— 44	— 25	— 255	— 470	

Table 4. Influence Coefficient of Deflection for the Case of $A=16$, $B=1$ and $\kappa=0$ (unit: $10^{-6}Pa^2/KB_x$)

Point	w_1	w_2	w_3	w_4	w_5	w_6	w_7	w_8	w_9	w_{10}	w_{11}	w_{12}	w_{13}	w_{14}	w_{15}	w_{16}	w_{17}	w_{18}
1	53 476	72 362	69 017	51 874	27 157	11 036	15 833	15 439	11 472	5 744	2 051	3 000	2 942	2 173	1 073	364	534	523
2	72 362	120 645	121 914	93 950	49 767	19 123	29 152	29 044	21 834	11 017	3 890	5 801	5 740	4 267	2 118	718	1 012	1 044
3	69 017	121 914	144 671	118 240	64 249	21 608	34 630	36 475	28 118	14 355	4 843	7 398	7 473	5 617	2 805	938	1 401	1 390
4	51 874	93 950	118 240	113 970	65 806	18 343	30 351	33 613	27 432	14 321	4 481	6 996	7 246	5 560	2 802	913	1 380	1 384
5	27 157	49 767	64 249	65 806	47 699	10 506	17 730	20 286	17 447	9 728	2 758	4 380	4 638	3 648	1 875	589	895	914
6	11 036	19 123	21 608	18 343	10 506	25 475	34 787	33 474	25 407	13 475	5 969	8 726	8 663	6 555	3 345	1 205	1 788	1 778
7	15 833	29 152	34 630	30 351	17 730	34 787	58 908	60 137	46 834	25 154	10 503	16 334	16 539	12 642	6 492	2 313	3 490	3 495
8	15 439	29 044	36 475	33 613	20 286	33 474	60 137	72 197	59 664	32 898	12 127	19 669	20 971	16 407	8 513	2 907	4 401	4 568
9	11 472	21 834	28 118	27 432	17 447	25 407	46 834	59 664	58 073	34 020	10 461	17 479	19 523	16 091	8 519	2 715	4 267	4 448
10	5 744	11 017	14 355	14 321	9 728	13 475	25 154	32 898	34 020	24 850	6 096	10 375	11 942	10 323	5 795	1 689	2 694	2 864
11	2 051	3 890	4 843	4 481	2 758	5 969	10 503	12 127	10 461	6 096	23 830	32 165	30 710	23 229	12 336	5 584	8 134	8 060
12	3 000	5 801	7 398	6 996	4 380	8 726	16 334	19 669	17 479	10 375	32 165	54 621	55 515	43 135	23 204	9 905	15 327	15 503
13	2 942	5 740	7 473	7 246	4 638	8 663	16 539	20 971	19 523	11 942	30 710	55 515	67 072	55 466	30 652	11 404	18 533	19 788
14	2 173	4 267	5 617	5 560	3 648	6 555	12 642	16 407	16 091	10 323	23 229	43 135	55 466	54 534	32 088	9 862	16 529	18 522
15	1 073	2 118	2 805	2 802	1 875	3 345	6 492	8 513	8 519	5 795	12 336	23 204	30 652	32 088	23 769	5 772	9 856	11 390
16	364	718	938	913	589	1 205	2 313	2 907	2 715	1 689	5 584	9 905	11 404	9 862	5 772	23 726	32 032	30 541
17	534	1 062	1 401	1 380	895	1 788	3 490	4 401	4 267	2 694	8 134	15 327	18 533	16 529	9 856	32 002	54 364	55 246
18	523	1 044	1 390	1 384	914	1 778	3 495	4 568	4 448	2 864	8 060	15 503	19 788	18 522	11 390	30 541	55 246	66 789
17′	384	770	1 030	1 035	695	1 330	2 628	3 467	3 437	2 261	6 095	11 894	15 492	15 307	9 887	23 098	42 927	
16′	188	378	508	513	344	665	1 318	1 747	1 745	1 167	3 113	6 090	8 047	8 118	5 570	12 270	23 098	
15′	63	126	169	169	113	227	448	587	572	371	1 129	2 183	2 758	2 589	1 620	5 570	9 887	
14′	92	186	250	251	168	335	667	882	869	568	1 675	3 294	4 257	4 076	2 589	8 118	15 307	
13′	90	181	245	248	167	331	662	880	876	579	1 665	3 301	4 345	4 257	2 758	8 047	15 492	
12′	65	133	180	183	124	245	492	657	658	439	1 247	2 484	3 301	3 294	2 183	6 090	11 849	
11′	32	65	89	90	61	121	243	326	328	220	624	1 247	1 665	1 675	1 129	3 113	6 095	
10′	11	22	30	31	21	42	84	112	112	75	220	439	579	568	371	1 167	2 261	
9′	16	33	45	46	31	62	125	167	168	112	328	658	876	869	572	1 745	3 437	
8′	16	32	43	45	30	61	124	166	167	112	326	657	880	882	587	1 747	3 467	
7′	12	23	32	33	22	46	91	124	125	84	243	492	662	667	448	1 318	2 628	
6′	6	12	16	16	11	23	46	61	62	42	121	245	331	335	227	665	1 330	
5′	3	6	8	8	6	11	22	30	31	21	61	124	167	168	113	344	695	
4′	4	8	12	12	8	16	33	45	46	31	90	183	248	251	169	513	1 035	
3′	4	7	11	12	8	16	32	43	45	30	89	180	245	250	169	508	1 030	
2′	3	6	7	8	6	12	23	32	33	22	65	133	181	186	126	378	770	
1′	1	3	4	4	3	6	12	16	16	11	32	65	90	92	63	188	384	

Table 5. Influence Coefficient of Bending Moment M_x for the Case of $A=9$, $B=1$ and $\kappa=0$ (unit: $10^{-4}P/K$)

Point	$M_{1,x}$	$M_{2,x}$	$M_{3,x}$	$M_{4,x}$	$M_{5,x}$	$M_{6,x}$	$M_{7,x}$	$M_{8,x}$	$M_{9,x}$	$M_{10,x}$	$M_{11,x}$	$M_{12,x}$	$M_{13,x}$	$M_{14,x}$	$M_{15,w}$	$M_{16,x}$	$M_{17,x}$	$M_{18,x}$
1	1 519 0	1 089 5	747 4	472 0	237 8	162 2	192 9	165 4	105 4	37 2	—20 4	— 9 5	3 3	10 7	7 3	—13 3	—14 2	— 9 7
2	1 095 6	2 254 6	1 558 2	987 0	495 7	261 6	342 8	300 6	193 8	68 4	—33 8	—22 7	1 1	16 3	12 0	—24 6	—26 9	—19 0
3	747 6	1 549 3	2 490 1	1 584 6	791 9	278 5	390 5	372 6	246 7	87 8	—35 2	—31 8	— 9 5	13 1	12 1	—30 6	—34 8	—25 6
4	463 0	965 7	1 568 1	2 294 2	1 140 2	226 1	328 5	335 6	244 3	88 8	—26 9	—29 4	—17 5	1 7	7 6	—28 5	—33 6	—26 0
5	221 4	463 4	758 0	1 117 2	1 547 9	125 6	185 6	196 5	154 3	64 9	—14 1	—17 2	—13 9	—5 3	1	—17 5	—21 2	—17 1
6	102 8	182 2	206 9	178 4	106 3	676 1	434 6	264 4	147 3	64 7	102 3	120 9	103 4	68 0	27 8	4 4	13 5	17 3
7	142 8	282 0	344 6	308 6	187 6	436 5	938 1	581 6	329 7	147 5	163 5	221 2	194 4	129 3	53 1	9 9	23 2	30 3
8	139 8	279 4	377 6	357 9	226 2	265 7	581 3	1 003 2	582 1	265 6	169 1	253 9	250 6	172 2	71 3	15 0	27 3	33 8
9	106 6	213 8	291 4	305 3	207 4	147 7	329 0	581 7	938 8	436 7	136 0	212 2	230 5	179 6	76 2	16 2	25 6	28 2
10	56 3	112 8	154 9	165 1	124 2	64 9	146 8	264 4	435 1	676 4	74 7	119 6	136 5	117 5	59 1	10 9	16 2	16 3
11	1 7	— 5 0	—13 5	—17 0	—14 9	56 8	116 0	134 2	121 1	76 0	663 3	413 2	242 3	130 2	56 2	101 4	118 7	100 5
12	10 3	2 0	—17 3	—29 6	—28 6	72 5	176 5	229 7	214 0	138 5	417 5	901 9	541 9	297 4	131 3	161 3	216 4	188 2
13	15 1	13 3	— 9 5	—32 4	—37 3	67 7	169 4	250 6	256 2	174 0	247 2	543 1	955 7	540 4	243 9	167 3	246 6	242 3
14	14 3	16 2	7	—23 5	—35 6	50 4	127 5	195 2	224 4	166 9	133 8	299 0	541 0	898 9	414 1	132 6	205 5	222 4
15	8 5	10 4	2 7	—10 3	—21 5	26 5	67 3	104 3	123 2	104 5	57 5	130 7	241 7	411 0	661 1	72 4	115 4	131 4
16	—2 8	— 9 1	—17 1	—21 3	—17 6	5 1	11 8	15 9	16 4	11 6	57 6	113 7	131 7	115 2	72 1	660 6	409 3	238 8
17	—3 7	—13 0	—26 0	—33 7	—28 7	11 3	23 4	27 7	26 4	17 7	73 7	173 4	222 6	205 1	131 8	413 1	895 6	535 8
18	—3 0	—12 1	—25 0	—35 0	—30 9	13 5	29 4	33 7	28 7	17 0	68 8	165 7	242 4	245 8	166 3	242 5	536 4	949 3
17′	—1 9	— 8 5	—19 2	—27 1	—24 9	11 6	25 7	30 7	24 7	11 9	51 0	124 3	188 1	215 5	160 3	130 1	293 6	
16′	— 8	— 4 3	— 9 9	—14 3	—13 5	6 6	14 5	17 6	14 6	5 7	26 7	65 4	100 3	118 2	100 8	55 6	127 9	
15′	—1 3	— 3 2	— 5 0	— 5 8	— 4 4	— 1	—1 2	—3 5	—5 2	—4 8	6 0	12 8	16 1	16 3	11 1	57 1	113 0	
14′	—2 1	— 5 1	— 8 2	— 9 4	— 7 3	3	— 9	—4 6	—7 9	—7 6	12 8	24 7	28 3	26 2	16 8	72 8	172 6	
13′	—2 2	— 5 4	— 8 8	—10 2	— 7 9	8	0	—3 7	—7 7	—8 1	15 1	30 7	34 2	28 3	16 1	67 9	165 0	
12′	—1 7	— 4 3	— 7 1	— 8 3	— 6 5	9	4	—2 0	—5 5	—6 5	12 8	26 6	31 0	24 3	11 1	50 4	123 9	
11′	— 9	— 1 9	— 4 6	— 4 1	— 3 6	5	6	— 9	—2 7	—3 5	7 2	15 0	17 8	14 4	5 2	26 4	65 2	
10′	— 3	— 6	— 7	— 6	— 3	— 5	—1 4	—2 4	—2 9	—2 4	1	— 1 0	— 3 3	—5 3	—4 9	6 2	13 0	
9′	— 5	— 1 1	— 1 3	— 1 1	— 5	— 7	—2 2	—3 7	—4 6	—3 7	6	— 6	— 4 5	—8 1	—8 0	13 0	25 0	
8′	— 6	— 1 2	— 1 5	— 1 3	— 7	— 7	—2 2	—3 9	—4 8	—4 0	1 0	4	— 3 7	—8 0	—8 6	15 2	30 8	
7′	— 5	— 1 0	— 1 3	— 1 2	— 6	— 5	—1 7	—3 0	—3 8	—3 1	1 2	9	— 2 2	—5 8	—6 9	12 8	26 6	
6′	— 3	— 5	— 7	— 7	— 4	— 3	— 8	—1 5	—2 1	—1 7	6	7	— 9	—2 9	—3 7	7 2	14 9	
5′	1	3	6	8	7	— 3	— 6	— 8	— 6	— 3	— 1 5	— 3 6	— 5 2	—5 7	—4 2	— 3 0	— 9 3	
4′	1	4	8	1 2	1 1	— 5	—1 2	—1 3	—1 0	— 5	— 2 3	— 5 7	— 8 4	—9 2	—6 8	— 4 0	—13 3	
3′	1	3	9	1 2	1 1	— 5	—1 3	—1 5	—1 3	— 6	— 3 1	— 5 5	— 8 9	—9 8	—7 2	— 3 4	—12 3	
2′	0	3	6	9	9	— 5	—1 0	—1 3	—1 1	— 5	— 1 8	— 4 6	— 7 1	—7 8	—5 8	— 2 2	— 8 7	
1′	0	1	3	5	4	— 3	— 5	— 8	— 6	— 3	— 1 0	— 2 4	— 3 9	—4 2	—3 2	— 1 0	— 4 4	

Table 6. Influence Coefficient of Bending Moment M_x for the Case of $A=9$, $B=1$ and $\kappa=1$ (unit: $10^{-4}P/K$)

Point	$M_{1,x}$	$M_{2,x}$	$M_{3,x}$	$M_{4,x}$	$M_{5,x}$	$M_{6,x}$	$M_{7,x}$	$M_{8,x}$	$M_{9,x}$	$M_{10,x}$	$M_{11,x}$	$M_{12,x}$	$M_{13,x}$	$M_{14,x}$	$M_{15,x}$	$M_{16,x}$	$M_{17,x}$	$M_{18,x}$
1	1 068 0	640 1	374 4	191 1	43 0	271 9	202 5	126 5	52 5	—13 0	65 8	53 9	34 0	12 9	—4 9	15 9	13 3	8 4
2	707 6	1 388 0	813 5	422 9	113 3	280 3	404 5	257 5	112 3	—16 9	116 1	107 1	69 2	27 4	—8 2	30 6	27 0	17 2
3	455 0	844 3	1 430 4	753 6	238 8	342 1	437 0	389 5	181 8	— 7 1	130 5	135 0	98 5	41 4	—8 6	38 5	35 9	24 4
4	267 1	478 5	791 1	1 277 8	465 0	241 4	329 2	360 4	260 8	21 8	108 8	121 8	101 4	51 4	—5 2	35 7	35 2	25 4
5	119 9	211 7	345 2	547 7	873 5	120 1	169 4	200 8	188 3	74 5	61 1	72 0	65 7	40 3	2 1	22 0	22 6	17 4
6	130 6	229 1	219 7	163 7	85 8	492 7	306 2	184 0	96 1	27 5	140 1	111 6	74 4	35 5	—1 0	37 5	32 8	22 1
7	97 7	311 5	377 0	306 7	172 8	308 1	675 1	405 6	216 9	72 2	200 2	226 4	153 2	75 6	2 1	68 1	66 0	45 3
8	64 0	224 4	394 0	397 5	250 1	186 3	409 5	713 4	387 6	145 8	183 0	248 6	230 4	119 1	11 2	78 1	84 1	64 2
9	34 8	138 6	644 9	358 1	286 3	102 0	230 0	398 4	651 4	264 9	131 0	191 3	215 3	162 6	27 5	66 5	77 0	65 8
10	12 9	62 4	115 6	167 1	206 8	42 4	100 6	176 4	286 4	462 6	66 3	100 8	122 9	117 2	51 1	38 2	46 3	43 1
11	12 0	49 4	71 5	71 7	52 3	60 1	124 9	126 9	99 8	59 8	456 6	265 1	151 3	78 4	26 8	127 5	99 0	65 8
12	8 5	62 9	106 8	117 4	91 1	40 1	172 5	219 0	186 9	118 1	259 9	610 8	348 3	183 2	68 3	180 4	205 1	43 1
13	4 2	51 1	101 0	126 5	107 8	23 4	127 4	231 7	240 8	166 0	143 8	347 0	647 6	343 0	137 2	162 5	225 3	65 2
14	1 2	33 5	68 7	97 2	94 4	11 1	80 8	151 8	217 3	183 4	73 3	185 6	347 1	606 2	253 3	115 4	136 5	137 0
15	— 2	18 9	32 4	46 6	51 9	3 5	37 5	72 4	105 0	129 1	29 3	79 1	149 9	261 7	452 3	58 3	91 0	211 1
16	3	9 8	18 6	22 8	20 2	4 6	29 4	44 5	46 3	36 0	51 9	112 6	114 3	90 9	57 4	452 4	260 4	198 7
17	— 5	12 8	26 6	34 6	32 1	2 3	38 3	67 2	75 9	62 1	29 2	154 4	199 2	171 9	113 7	253 7	603 5	113 7
18	—1 0	11 1	24 9	34 5	34 1	3	32 1	64 8	81 9	72 6	13 5	110 3	211 3	224 0	160 3	137 6	339 6	147 6
17′	—1 1	7 5	17 3	25 3	26 5	— 7	21 6	45 1	63 5	62 9	4 4	68 6	136 8	203 7	178 3	68 7	180 1	342 3
16′	— 6	3 5	8 2	12 1	13 3	— 8	10 2	21 7	31 0	34 4	4	31 6	64 9	98 1	126 1	27 0	76 4	641 4
15′	— 3	2 0	4 5	6 2	6 2	— 2	6 4	12 3	15 3	13 9	2 9	26 2	40 9	43 3	35 1	50 6	111 6	
14′	— 5	2 7	6 3	9 1	9 4	— 7	8 5	17 8	23 3	22 1	— 3	33 9	61 9	71 5	60 8	27 4	153 0	
13′	— 6	2 4	5 9	8 9	9 4	— 9	7 6	16 9	23 3	23 3	—2 1	28 0	59 5	77 5	71 2	11 7	109 2	
12′	— 5	1 7	4 2	6 3	7 0	— 8	5 3	12 0	17 3	18 1	—2 3	18 7	41 5	60 3	61 8	3 0	67 9	
11′	— 3	8	1 9	3 1	3 4	— 4	2 4	5 8	8 4	9 1	—1 4	8 7	20 0	29 5	33 9	— 3	31 4	
10′	— 1	4	1 1	1 7	1 8	— 3	1 5	3 2	4 5	4 5	— 6	5 8	11 9	15 2	14 5	2 4	27 0	
9′	— 2	6	1 6	2 4	2 7	— 4	2 1	5 6	4 7	7 9	—1 4	7 9	17 4	23 5	23 2	—1 0	35 4	
8′	— 2	5	1 5	2 3	2 6	— 4	1 9	4 5	6 5	7 0	—1 6	7 1	16 7	23 8	24 7	—2 9	29 6	
7′	— 2	4	1 0	1 7	1 9	— 3	1 3	3 2	4 8	5 2	—1 3	5 0	12 0	17 8	19 4	—3 0	20 1	
6′	— 1	1	5	8	1 0	— 1	6	1 5	2 3	2 6	— 9	2 3	5 8	8 8	9 9	—1 9	9 6	
5′	— 1	1	4	5	6	— 1	4	1 2	1 7	1 7	— 5	1 8	4 3	6 2	6 5	—1 3	8 2	
4′	— 1	2	5	8	9	— 2	6	1 6	2 4	2 6	— 8	2 4	6 2	9 2	10 0	—2 7	10 8	
3′	— 1	1	5	7	9	— 2	6	1 5	2 3	2 5	—1 0	2 3	5 8	9 0	10 1	—3 1	9 4	
2′	0	1	3	5	6	— 2	4	1 0	1 6	1 9	— 7	1 5	4 1	6 6	7 6	—2 5	6 4	
1′	0	1	1	3	3	— 1	2	5	8	9	— 4	8	1 9	3 2	3 8	—1 4	3 0	

Table 7. Influence Coefficient of Bending Moment M_x for the Case of $A=16$, $B=1$ and $\kappa=0$ (unit: $10^{-5}P/K$)

Point	$M_{1,x}$	$M_{2,x}$	$M_{3,x}$	$M_{4,x}$	$M_{5,x}$	$M_{6,x}$	$M_{7,x}$	$M_{8,x}$	$M_{9,x}$	$M_{10,x}$	$M_{11,x}$	$M_{12,x}$	$M_{13,x}$	$M_{14,x}$	$M_{15,x}$	$M_{16,x}$	$M_{17,x}$	$M_{18,x}$
1	1 602 79	1 224 50	882 86	572 83	284 76	75 74	99 04	91 87	63 94	27 14	—20 30	—21 10	—15 01	— 6 88	—1 98	— 4 79	— 6 26	— 5 44
2	1 228 32	2 481 16	1 795 00	1 166 94	580 14	125 32	175 46	165 17	115 92	49 14	—35 21	—39 85	—28 84	—13 82	—4 00	— 8 75	—11 48	— 9 94
3	886 00	1 793 81	2 762 68	1 801 73	895 75	137 41	202 00	201 13	143 46	61 06	—39 78	—49 54	—38 95	—19 62	—6 01	—10 73	—14 15	—12 64
4	572 94	1 162 01	1 797 23	2 490 01	1 238 04	114 23	172 62	180 04	136 22	58 39	—34 20	—44 89	—38 81	—21 96	—6 80	— 9 83	—13 21	—11 88
5	281 16	570 89	885 28	1 230 66	1 609 02	64 44	98 64	105 59	83 59	38 84	—19 51	—26 75	—24 66	—15 70	—6 08	— 6 01	— 8 10	— 7 34
6	58 21	92 99	109 22	96 41	58 00	752 94	541 58	367 74	226 08	107 71	58 90	78 16	73 01	51 84	23 62	— 4 64	— 2 92	— 29
7	75 85	148 50	179 57	166 21	101 34	542 27	1 119 64	767 45	475 49	227 41	97 74	140 40	133 42	95 47	43 52	— 7 67	— 6 12	— 1 37
8	78 08	154 12	201 20	191 41	120 02	368 06	767 02	1 227 13	768 82	370 19	106 96	162 68	165 24	120 53	55 40	— 8 17	— 8 03	— 3 64
9	61 74	122 40	162 18	163 26	107 57	225 83	474 37	767 92	1 121 69	544 39	88 85	139 43	149 69	116 93	54 14	— 6 44	— 7 34	— 4 82
10	33 44	66 24	88 38	90 07	63 43	106 92	225 65	368 24	542 29	754 31	50 08	729 99	88 56	73 30	37 12	— 3 46	— 4 28	— 3 49
11	—6 62	—16 60	—25 24	—26 50	—19 01	36 97	73 19	88 49	80 14	50 08	745 27	527 58	352 26	213 23	100 76	57 71	76 25	70 96
12	—7 85	—23 22	—39 24	—44 24	—33 19	53 89	116 75	149 65	139 61	88 85	529 92	1 095 62	739 69	451 94	214 67	95 54	136 91	129 71
13	—6 73	—20 77	—39 10	—48 49	—38 77	54 90	120 35	165 28	161 60	107 06	355 03	740 45	1 194 30	739 66	354 13	104 33	158 47	160 70
14	—4 43	—14 62	—28 69	—38 74	—33 84	43 31	95 36	133 52	140 62	97 85	215 32	452 45	739 44	1 094 83	528 95	86 40	135 72	132 59
15	—2 20	— 7 31	—14 83	—20 38	—19 48	23 51	51 80	73 12	78 30	58 97	101 09	213 44	352 04	526 97	744 66	48 71	64 80	86 08
16	—2 05	— 4 82	— 7 34	— 8 10	— 6 08	— 43	—1 76	—3 56	—4 25	—3 35	36 32	71 42	86 15	77 72	48 67	744 34	526 43	351 04
17	—3 28	— 7 67	—11 81	—13 28	— 9 97	76	—1 01	—4 90	—7 24	—6 23	52 78	113 80	145 58	135 68	86 33	528 52	1 093 64	737 78
18	—3 38	— 8 10	—12 60	—14 29	—10 87	1 66	1 04	—3 64	—7 85	—7 88	53 64	117 07	167 06	158 44	104 18	353 48	738 29	1 192 25
17′	—2 70	— 6 44	—10 08	—11 52	— 8 96	1 76	1 91	—1 30	—5 94	—7 38	42 30	92 59	129 67	136 87	95 44	214 16	450 72	
16′	—1 40	— 3 53	— 5 47	— 6 30	— 4 93	1 19	1 33	— 29	—2 77	—4 43	22 97	50 22	70 99	76 18	57 67	100 40	212 54	
15′	— 25	— 36	— 50	— 43	— 32	— 90	—2 12	—3 38	—3 82	—2 92	— 29	— 1 69	— 3 42	— 4 10	—3 28	36 28	71 39	
14′	— 43	— 65	— 86	— 86	— 43	—1 37	—5 11	—1 76	—7 99	—4 79	94	— 68	— 4 64	— 7 02	—6 16	52 67	113 76	
13′	— 40	— 83	— 1 01	— 97	— 54	—1 37	—3 42	—5 62	—6 59	—5 18	1 84	1 30	— 3 35	— 7 63	—7 85	53 57	117 00	
12′	— 36	— 65	— 94	— 79	— 50	—1 08	—2 63	—4 46	—5 15	—4 25	1 87	2 20	— 1 22	— 5 72	—7 34	42 88	92 59	
11′	— 25	— 32	— 54	— 47	— 29	— 58	—1 40	—2 34	—2 88	—2 27	1 22	1 44	— 18	— 2 70	—4 43	22 90	50 29	
10′	7	4	14	20	14	— 22	— 29	— 54	— 50	— 32	— 83	— 2 09	— 3 38	— 3 85	—2 92	— 25	— 1 62	
9′	4	14	22	22	32	— 25	— 65	— 79	— 79	— 61	— 1 37	— 3 13	— 5 44	— 6 23	—4 79	97	— 79	
8′	4	14	18	32	22	— 36	— 65	— 90	— 86	— 68	— 1 30	— 3 35	— 5 65	— 6 62	—5 22	1 80	1 30	
7′	4	11	14	22	20	— 25	— 58	— 72	— 79	— 47	— 1 01	— 2 59	— 4 46	— 5 29	—4 25	1 91	2 05	
6′	4	0	11	14	7	— 14	— 29	— 47	— 36	— 32	— 54	— 1 40	— 2 38	— 2 88	—2 34	1 26	1 51	
5′	0	4	11	4	11	0	11	7	20	14	— 25	— 47	— 54	— 40	— 29	2 12	— 4 97	
4′	4	14	14	18	17	7	9	25	22	32	— 43	— 76	— 94	— 79	— 32	3 35	— 7 81	
3′	4	11	11	18	14	9	8	22	29	29	— 47	— 90	— 1 04	— 72	— 43	3 49	— 8 21	
2′	4	7	7	18	4	8	7	18	25	18	— 32	— 72	— 94	— 72	— 32	2 77	— 6 52	
1′	4	4	4	11	0	4	0	11	11	14	— 25	— 40	— 61	— 47	— 22	1 44	— 3 56	

Table 8. Influence Coefficient of Bending Moment M_x for the Case of $A=16$, $B=1$ and $\kappa=1$ (unit: $10^{-5}P/K$)

Point	$M_{1,x}$	$M_{2,x}$	$M_{3,x}$	$M_{4,x}$	$M_{5,x}$	$M_{6,x}$	$M_{7,x}$	$M_{8,x}$	M_9 x	$M_{10,x}$	$M_{11,x}$	$M_{12,x}$	$M_{13,x}$	M_{14} x	$M_{15,x}$	$M_{16,x}$	$M_{17,x}$	$M_{18,x}$
1	1 245 24	800 32	496 73	272 66	87 84	224 60	186 88	128 63	63 40	58	39 67	36 25	25 60	11 92	— 97	6 98	6 52	4 61
2	866 84	1 692 50	1 052 39	547 88	201 02	327 38	364 93	255 67	129 85	7 20	71 24	70 99	50 83	24 34	—1 12	15 26	9 43	11 02
3	580 32	1 085 04	1 970 77	992 16	369 29	309 10	402 37	367 27	194 62	21 31	82 37	89 28	69 52	34 42	— 25	17 10	17 06	12 56
4	352 73	640 30	1 028 16	1 580 18	635 11	228 06	314 86	339 95	249 48	43 56	70 78	81 54	69 70	38 59	1 58	16 06	16 67	12 71
5	163 69	292 61	465 30	707 94	1 065 31	118 15	168 05	194 22	175 68	72 32	40 90	49 10	44 93	28 19	3 67	10 19	10 33	8 57
6	106 16	201 67	207 00	164 59	96 08	581 87	382 50	243 14	139 14	55 55	115 63	101 52	73 62	39 67	4 86	22 39	21 35	15 77
7	90 50	282 28	351 25	300 31	183 92	383 98	824 11	703 15	301 57	125 66	168 19	202 54	147 67	81 11	17 17	40 90	42 19	31 39
8	66 02	222 26	370 55	376 74	250 52	245 20	525 71	885 35	512 39	220 95	165 06	224 64	211 18	119 88	22 28	50 87	47 77	45 65
9	39 96	146 81	250 92	334 76	268 63	143 28	309 49	519 16	808 63	358 81	123 95	179 06	197 14	149 04	34 09	41 87	49 36	42 91
10	16 96	69 66	121 39	164 12	184 86	64 66	141 66	238 40	370 51	564 48	65 41	97 63	114 70	104 72	45 61	24 62	30 06	27 83
11	7 63	31 90	47 34	49 00	37 26	51 66	104 76	118 44	97 16	62 32	557 82	352 44	216 94	122 83	51 95	109 22	94 46	284 08
12	7 16	43 34	71 96	79 70	63 50	40 25	152 32	198 90	176 90	117 76	349 52	776 23	477 86	271 84	117 83	161 39	188 86	137 88
13	5 18	38 34	70 56	85 72	73 08	28 33	123 98	211 68	220 79	157 00	212 58	476 93	833 87	475 49	210 17	153 90	211 46	199 84
14	2 84	26 78	50 65	66 78	62 50	16 85	83 59	146 92	196 27	163 98	119 63	272 70	477 47	774 50	347 11	115 02	168 26	187 49
15	1 01	12 89	24 84	33 26	34 13	7 13	40 54	72 54	98 28	110 56	52 85	123 12	216 43	351 18	556 20	60 77	91 80	109 33
16	36	4 82	8 82	10 76	9 54	3 49	18 50	28 30	30 92	23 87	45 47	101 59	109 48	91 73	60 55	555 12	352 69	214 27
17	22	6 80	12 96	16 70	14 76	3 10	28 48	37 62	51 80	40 36	33 88	143 60	187 56	168 08	114 59	347 04	773 28	475 24
18	17	6 30	12 67	16 70	15 98	2 20	23 18	42 95	62 70	46 07	22 21	113 69	199 84	211 18	153 29	210 10	473 83	831 10
17′	7	4 54	9 18	12 42	12 78	1 15	16 52	31 28	41 26	39 06	12 28	76 00	137 81	188 46	160 81	117 68	270 36	
16′	— 7	2 16	4 50	6 26	6 30	43	8 02	15 52	24 34	21 20	4 90	36 72	67 90	94 28	108 79	51 91	121 86	
15′	0	72	1 55	2 02	2 05	22	2 95	5 54	6 70	6 12	2 70	17 24	26 98	28 80	23 44	45 11	101 30	
14′	— 4	1 08	2 27	3 02	3 06	11	4 21	8 21	10 37	9 61	2 02	23 62	41 18	47 02	39 67	33 44	143 06	
13′	— 7	97	2 20	3 02	3 10	0	4 07	7 99	10 55	10 15	1 04	21 31	40 75	50 80	55 32	21 67	113 36	
12′	—11	76	1 58	2 23	2 34	— 4	3 95	5 90	7 92	7 92	36	15 12	29 66	39 74	38 59	11 92	75 78	
11′	— 4	32	82	1 08	1 15	— 7	1 40	2 92	3 96	4 03	4	7 38	14 69	20 02	20 99	4 72	36 61	
10′	0	11	25	40	40	0	50	1 01	1 33	1 37	4	2 84	5 44	6 90	6 26	2 63	17 68	
9′	— 4	18	40	58	58	— 4	76	1 48	2 05	2 02	— 7	4 03	8 10	10 44	9 90	1 91	24 52	
8′	0	18	32	61	54	— 7	76	1 48	2 02	2 05	—18	3 89	7 96	10 69	10 51	97	22 28	
7′	4	7	29	43	40	— 4	43	1 15	1 51	1 55	—22	2 84	5 94	18 76	8 24	29	15 95	
6′	0	7	14	18	22	0	29	50	76	79	—11	1 37	2 95	4 03	4 28	0	7 81	
5′	0	3	7	7	14	2	11	25	40	40	— 7	72	1 51	2 02	2 09	—25	4 75	
4′	2	4	14	14	14	4	18	40	58	58	—11	1 01	2 23	3 06	3 13	—32	6 23	
3′	4	6	11	18	14	4	18	32	61	54	—17	94	2 16	3 10	3 17	—50	5 83	
2′	0	7	8	11	14	4	7	29	43	40	—11	72	1 55	2 34	2 38	—50	4 25	
1′	— 4	4	4	4	7	0	7	14	18	22	— 4	29	83	1 12	1 22	—29	2 05	

Table 9. Influence Coefficient of Bending Moment M_y for the Case of $A=9$, $B=1$ and $\kappa=0$ (unit: 10^{-5} PK)

Point	$M_{6,y}$	$M_{7,y}$	$M_{8,y}$	$M_{9,y}$	$M_{10,y}$	$M_{11,y}$	$M_{12,y}$	$M_{13,y}$	$M_{14,y}$	$M_{15,y}$	$M_{16,y}$	$M_{17,y}$	$M_{18,y}$
1	—42 20	—32 90	—20 65	— 7 55	5 63	— 9 16	— 9 10	— 6 76	— 3 16	84	— 52	— 99	— 1 06
2	—62 24	—61 04	—39 63	—15 26	9 86	—16 14	—16 74	—12 51	— 5 99	66	— 87	— 1 68	— 1 86
3	—60 51	—66 82	—55 05	—23 25	11 16	—18 88	—20 34	—15 84	— 7 85	53	— 98	— 1 90	— 2 14
4	—45 95	—52 71	—50 45	—30 53	8 12	—16 55	—18 37	—17 51	— 7 91	6	— 85	— 1 63	— 1 84
5	—24 50	—28 44	—28 74	—21 41	5	— 9 68	—10 37	— 9 28	— 5 23	— 20	— 50	— 95	— 1 05
6	24 58	25 80	21 58	15 61	9 31	—14 35	— 8 70	— 3 57	49	3 61	— 4 66	— 4 30	— 2 90
7	25 04	46 49	41 45	30 73	18 03	—19 58	—16 51	— 7 30	42	6 63	— 8 06	— 7 96	— 5 47
8	20 45	40 67	55 38	43 58	25 45	—17 21	—16 84	—11 86	— 24	7 88	— 9 69	— 9 78	— 7 11
9	14 12	28 90	42 24	49 73	29 84	—11 74	—11 78	—10 80	— 5 06	6 70	— 8 48	— 8 86	— 6 91
10	7 27	14 92	22 48	28 11	27 64	— 5 72	— 5 64	— 5 64	— 4 20	2 00	— 4 96	— 5 29	— 4 31
11	3 08	— 2 17	— 3 24	— 3 52	— 4 64	26 61	22 57	22 68	15 79	8 56	—13 51	— 7 82	— 2 90
12	8 27	— 1 85	— 6 73	— 8 12	— 9 77	28 15	49 03	42 87	30 72	16 66	—18 18	—15 03	— 6 17
13	9 51	2 09	— 7 41	—12 63	—14 75	23 61	43 14	56 49	43 15	23 73	—15 66	—15 23	—10 60
14	7 74	3 02	— 3 66	—12 89	—17 38	16 52	30 65	42 80	48 98	28 22	—10 52	—10 47	— 9 73
15	4 20	1 89	— 1 56	— 6 65	—13 03	8 46	15 66	22 61	27 51	26 63	— 5 06	— 5 15	— 5 06
16	1 04	— 1 41	— 3 36	— 4 66	— 4 66	1 91	— 3 79	— 4 90	— 4 78	— 4 95	26 52	27 19	22 52
17	1 92	— 4 80	— 5 46	— 7 68	— 7 98	6 53	— 4 36	— 9 36	—10 21	—10 31	28 02	48 81	42 63
18	2 20	— 1 61	— 5 60	— 8 49	— 9 14	7 79	— 46	—10 32	—14 94	—15 40	23 50	42 92	56 26
17′	1 86	— 1 06	— 4 25	— 6 92	— 7 82	6 46	1 07	— 5 94	—14 78	—17 95	16 45	30 50	
16′	1 03	— 51	— 2 23	— 3 73	— 4 41	3 54	87	— 2 77	— 7 67	—13 37	8 44	15 66	
15′	3	— 45	— 88	— 1 11	— 1 03	57	— 2 03	— 4 08	— 5 03	— 4 74	1 85	— 3 92	
14′	8	— 73	— 1 44	— 1 82	— 1 68	1 18	— 2 88	— 6 49	— 8 43	— 8 12	6 44	— 4 56	
13′	14	— 78	— 1 58	— 1 99	— 1 82	1 44	— 2 64	— 6 69	— 9 31	— 9 31	7 71	— 67	
12′	14	— 62	— 1 29	— 1 64	— 1 49	1 25	— 1 89	— 5 13	— 7 58	— 7 97	6 41	91	
11′	9	— 33	— 70	— 91	— 82	71	— 96	— 2 71	— 5 37	— 4 50	3 52	78	
10′	— 7	— 9	— 9	— 4	4	— 6	— 57	— 1 00	— 1 20	— 10 4	55	— 2 23	
9′	— 11	— 16	— 16	— 8	4	— 8	— 94	— 1 43	— 2 07	— 1 69	1 15	— 3 11	
8′	— 11	— 19	— 20	— 12	2	— 5	— 77	— 1 80	— 2 13	— 1 84	1 40	— 2 90	
7′	— 8	— 15	— 18	— 12	0	— 1	— 81	— 1 48	— 1 84	— 1 49	1 21	— 2 10	
6′	— 4	— 8	— 10	— 7	— 1	0	— 44	— 81	— 1 01	— 81	68	— 1 08	
5′	— 5	3	12	20	22	— 19	— 1	22	44	35	— 50	— 86	
4′	— 8	5	19	30	34	— 30	— 5	29	65	88	— 78	— 1 48	
3′	— 8	5	19	31	35	— 33	— 9	24	62	88	— 76	— 1 67	
2′	— 7	3	41	24	28	— 25	— 10	14	44	66	— 54	— 1 38	
1′	— 4	2	7	13	15	— 13	— 6	6	22	34	— 29	— 77	

Table 10. Influence Coefficient of Bending Moment M_y for the Case of $A=9$, $B=1$ and $\kappa=0$ (unit: 10^{-5} PK)

Point	$M_{6,y}$	$M_{7,y}$	$M_{8,y}$	$M_{9,y}$	$M_{10,y}$	$M_{11,y}$	$M_{12,y}$	$M_{13,y}$	$M_{14,y}$	$M_{15,y}$	$M_{16,y}$	$M_{17,y}$	$M_{18,y}$
1	—18 47	—12 18	— 6 50	—1 39	3 24	— 5 73	—4 22	—2 33	— 49	96	—1 49	—1 15	— 64
2	—24 53	—21 68	—11 52	—2 27	6 12	— 9 73	—7 87	—4 36	— 87	1 90	—2 82	—2 24	—1 26
3	—21 37	—21 80	—16 31	—3 82	7 68	—10 59	—9 41	—5 85	—1 28	2 44	—3 46	—2 88	—1 68
4	—14 54	—15 26	—14 11	—7 09	6 82	— 8 56	—8 08	—5 71	—1 72	2 35	—3 14	—2 72	—1 70
5	— 6 87	— 9 35	— 6 93	—4 88	20 03	— 4 64	—4 73	—3 46	—1 38	1 32	—1 88	—1 68	—1 11
6	13 51	13 00	10 90	8 36	5 79	— 7 89	—4 74	—2 07	13	1 97	—3 00	—2 22	—1 22
7	12 69	25 02	21 49	16 26	10 86	—10 22	—8 46	—3 63	41	3 78	—5 21	—4 23	—2 33
8	10 55	21 09	30 10	23 31	14 81	— 8 52	—8 15	—5 52	7	4 82	—5 77	—5 13	—3 17
9	7 71	15 07	22 13	27 68	17 06	— 5 47	—5 25	—4 59	—1 60	4 43	—4 73	—4 45	—3 13
10	4 21	7 93	11 69	14 99	16 56	— 2 41	—2 19	—2 00	—1 21	1 82	—2 61	—2 52	—1 92
11	1 18	— 1 44	— 1 69	—1 56	—1 70	15 68	14 86	12 02	8 58	5 08	—9 88	—3 89	—1 56
12	3 47	— 1 80	— 4 00	—3 99	—3 71	15 44	27 63	23 20	16 70	9 65	—8 69	—7 10	—2 74
13	3 87	— 4	— 4 69	—6 50	—6 30	12 87	23 36	31 82	23 71	13 49	—8 73	—6 74	—4 75
14	3 06	41	— 2 78	—6 86	—8 12	9 15	16 46	23 27	28 00	16 04	—4 34	—4 18	—2 70
15	1 59	18	— 1 53	—3 73	—6 57	4 82	8 47	12 10	15 12	16 06	—1 86	—1 65	—1 60
16	73	— 73	— 70	—2 25	—2 24	1 54	—1 14	—1 61	—1 62	—1 76	15 97	15 84	12 18
17	1 29	— 86	— 2 85	—3 94	—4 06	3 90	—1 43	—3 80	—4 07	—4 15	15 87	28 02	23 45
18	1 33	— 58	— 2 83	—4 51	—4 98	4 22	24	—4 54	—6 64	—6 76	13 29	23 78	32 07
17′	1 00	— 37	— 1 42	—3 68	—4 51	3 26	55	—2 72	—6 96	—8 47	9 47	16 74	
16′	50	— 19	— 1 04	—1 90	—2 59	1 67	22	—1 53	—3 79	—6 75	4 97	8 60	
15′	25	— 19	— 66	—1 02	—1 08	78	— 70	—1 79	—2 30	—2 35	1 63	—1 07	
14′	39	— 24	— 98	—1 55	—1 76	1 35	— 84	—2 87	—3 99	—4 24	4 05	—1 35	
13′	39	— 21	— 95	—1 61	—1 90	1 38	— 56	—2 87	—4 62	—5 19	4 37	31	
12′	29	— 15	— 70	—1 22	—1 51	1 04	— 38	—1 23	—4 00	—4 66	3 38	60	
11′	14	— 7	— 35	— 61	— 78	52	— 20	—1 07	—1 96	—2 67	1 73	24	
10′	8	— 5	— 20	— 33	— 39	28	— 20	— 70	—1 07	—1 16	86	— 72	
9′	11	— 7	— 29	— 55	— 39	42	— 26	—1 06	—1 09	—1 95	1 49	— 88	
8′	11	— 6	— 29	— 50	— 62	42	— 24	—1 05	—1 78	—2 11	1 53	— 62	
7′	8	— 5	— 21	— 37	— 47	31	— 17	— 78	—1 37	—1 70	1 16	— 42	
6′	4	— 2	— 11	— 18	— 23	16	— 9	— 39	— 69	— 88	59	— 23	
5′	3	— 2	— 8	— 13	— 16	11	— 8	— 31	— 50	— 60	42	— 32	
4′	4	— 2	— 12	— 20	— 24	16	— 11	— 45	— 77	— 93	65	— 42	
3′	4	— 2	— 11	— 19	— 24	16	— 10	— 45	— 77	— 96	65	— 29	
2′	3	— 2	— 8	— 14	— 18	12	— 7	— 33	— 58	— 73	48	— 27	
1′	1	— 1	— 4	— 7	— 9	6	— 4	— 21	— 29	— 37	24	— 14	

Table 11. Influence Coefficient of Bending Moment M_y for the Case of $A=16$, $B=1$ and $\kappa=0$ (unit: 10^{-6} PK)

Point	$M_{6,y}$	$M_{7,y}$	$M_{8,y}$	$M_{9,y}$	$M_{10,y}$	$M_{11,y}$	$M_{12,y}$	$M_{13,y}$	$M_{14,y}$	$M_{15,y}$	$M_{16,y}$	$M_{17,y}$	$M_{18,y}$
1	-17 082	-15 136	-10 792	-5 158	960	-1 813	-2 075	-1 751	-1 034	-180	167	107	31
2	-26 027	-27 585	-20 119	-9 814	1 591	-3 207	-3 741	-3 181	-1 900	-345	312	211	72
3	-26 230	-30 668	-26 463	-13 454	1 587	-3 782	-4 514	-3 917	-2 372	-459	392	285	114
4	-20 516	-25 180	-23 979	-15 304	661	-3 343	-4 065	-3 616	-2 246	-464	366	282	133
5	-11 108	-13 662	-1373	-10 199	-1 247	-1 965	-2 423	-2 198	-1 405	-319	225	181	96
6	11 244	13 462	12 350	9 260	5 071	-6 938	-5 500	-3 501	-1 287	873	-1 181	-280	-1 030
7	13 422	23 615	22 699	17 381	9 557	-10 244	-10 193	-8 062	-2 564	1 532	-2 104	-2 325	-1 888
8	12 298	22 636	28 584	22 946	12 809	-9 941	-11 113	-9 129	-3 856	1 720	-2 488	-2 827	-2 345
9	9 167	17 189	22 787	23 963	13 913	-8 200	-8 722	-8 304	-4 992	1 219	-2 206	-2 549	-2 179
10	4 866	9 191	12 450	13 708	11 557	-3 967	-4 666	-4 699	-3 477	-47	-1 301	-1 523	-1 332
11	239	-2 984	-4 133	-4 192	-3 730	11 292	13 378	12 167	9 033	4 866	-6 762	-5 348	-3 348
12	1 667	-4 191	-7 361	-7 915	-7 089	13 468	23 423	22 329	16 945	9 187	-9 942	-9 861	-6 525
13	2 221	-3 000	-8 093	-10 208	-9 452	12 317	22 370	28 101	22 389	12 358	-9 597	-10 729	-8 809
14	1 896	-2 327	-5 780	-9 428	-9 816	9 150	16 926	22 325	23 436	13 501	-7 214	-8 392	-8 075
15	1 068	-912	-3 033	-5 116	-6 774	4 843	9 021	12 164	13 385	11 310	-3 801	-4 530	-4 538
16	-22	-712	-1 238	-1 429	-1 261	-61	-3 378	-4 521	-4 462	-3 788	11 284	13 381	12 165
17	2	-1 118	-2 023	-2 414	-2 138	207	-4 824	-7 996	-8 362	-7 189	13 482	23 428	22 327
18	31	-1 157	-2 172	-2 670	-2 414	1 686	-3 669	-8 777	-10 694	-9 568	12 160	22 379	28 101
17′	42	-912	-1 814	-2 201	-2 039	1 504	-2 409	-6 357	-9 828	-9 915	9 165	16 934	
16′	29	-492	-950	-1 210	-1 145	857	-1 200	-3 331	-5 329	-6 745	4 852	9 027	
15′	-40	-59	-63	-48	-15	-68	-771	-1 294	-1 480	-1 264	-65	-3 389	
14′	-65	-112	-86	-94	-29	-74	-1 217	-2 122	-2 471	-2 144	1 186	-4 843	
13′	-68	-122	-138	-106	-37	-52	-1 263	-2 280	-2 737	-2 422	1 680	-3 691	
12′	-54	-104	-123	-96	-33	-26	-998	-1 829	-2 256	-2 046	1 502	-2 426	
11′	-29	-58	-70	-58	-23	-8	-540	-997	-1 242	-1 149	855	-1 209	
10′	-8	10	27	19	44	-40	-58	-61	-46	-13	-71	-793	
9′	-12	14	43	65	69	-66	-103	-112	-83	-25	-80	-1 253	
8′	-14	14	44	67	73	-69	-121	-137	-102	-32	-59	-1 165	
7′	-11	10	34	52	58	-55	-104	-122	-94	-32	-32	-1 035	
6′	-6	5	18	28	31	-30	-59	-71	-57	-20	-11	-560	
5′	1	7	11	13	10	-6	41	84	109	105	-86	-2	
4′	2	11	19	21	18	-11	64	133	175	170	-143	-23	
3′	2	12	21	23	19	-12	66	139	186	181	-147	-44	
2′	1	10	17	19	15	-10	52	110	146	145	-124	-48	
1′	1	10	9	11	9	-6	28	59	79	79	-67	-31	

Table 12. Influence Coefficient of Bending Moment M_y for the Case of $A=16$, $B=1$ and $\kappa=1$ (unit: 10^{-6} PK)

Point	$M_{6,y}$	$M_{7,y}$	$M_{8,y}$	$M_{9,y}$	$M_{10,y}$	$M_{11,y}$	$M_{12,y}$	$M_{13,y}$	$M_{14,y}$	$M_{15,y}$	$M_{16,y}$	$M_{17,y}$	$M_{18,y}$
1	−8 704	−6 445	−3 702	−1 314	143	−1 947	−2 285	−1 021	−351	243	−372	−320	−205
2	−12 141	−11 511	−2 015	−2 275	2 136	−3 396	−3 008	−1 921	−663	470	−698	−647	−392
3	−11 154	−12 008	−9 569	−3 423	2 610	−3 830	−3 657	−2 520	−891	602	−736	−794	−525
4	−9 381	−8 901	−8 374	−4 745	2 173	−3 208	−3 217	−2 430	−993	564	−809	−755	−519
5	−3 981	−5 854	−4 402	−3 204	506	−1 809	−1 860	−1 495	−713	303	−495	−476	−477
6	6 315	6 808	6 010	4 595	2 888	−3 948	−2 815	−1 606	−433	664	−1 035	−870	−558
7	6 679	12 493	12 121	8 786	5 402	−5 503	−5 089	−3 016	−777	1 279	−1 831	−1 654	−1 066
8	5 837	11 260	15 135	11 940	7 275	−4 890	−5 272	−4 105	−1 230	1 561	−2 093	−2 067	−1 396
9	4 174	8 319	11 618	13 348	8 116	−3 522	−5 264	−3 604	−1 929	1 341	−1 792	−1 803	−979
10	2 332	4 425	6 109	7 443	7 293	−1 742	−1 900	−1 876	−1 343	383	−1 028	−1 060	−294
11	229	−1 420	−1 796	−1 720	−1 483	7 090	7 543	6 505	−4 761	2 684	−3 657	−2 548	−2 620
12	1 099	−1 970	−3 422	−3 502	−3042	7 721	13 566	12 209	−9 061	5 067	−5 023	−4 659	−3 761
13	1 174	−759	−3 867	−4 827	−4 381	6 786	12 269	15 896	−12 343	6 914	−4 502	−4 812	−3 313
14	1 070	−410	−2 691	−4 664	−4 925	4 965	9 011	12 225	−13 644	7 843	−3 154	−3 482	−1 721
15	566	−402	−1 451	−2 615	−3 604	2 616	4 740	6 527	−7 590	7 163	−1 551	−1 704	6 552
16	162	−535	−796	−1 006	−956	332	−1 288	−1 725	−1 699	−1 536	7 147	7 617	12 282
17	299	−496	−1 360	−1 691	−1 662	1 245	−1 814	−3 302	−3 472	−3 126	10 108	13 666	16 041
18	318	−356	−1 337	−1 899	−1 950	1 448	−1 104	−3 756	−4 789	−4 467	6 888	12 370	
17′	247	−183	−1 002	−1 541	−1 703	1 161	−335	−2 614	−4 637	−4 990	5 042	9 088	
16′	126	−221	−518	−805	−955	607	−369	−1 414	−2 537	−3 639	2 669	4 778	
15′	42	−115	−192	−299	−272	177	−388	−956	−1 006	−969	662	−1 274	
14′	65	−110	−303	−435	−459	320	−535	−1 299	−1 703	−1 685	1 269	−1 831	
13′	66	−82	−304	−452	−491	337	−473	−1 326	−1 902	−1 974	1 471	−1 092	
12′	50	−41	−228	−348	−389	260	−345	−995	−1 544	−1 721	1 179	−659	
11′	25	−15	−115	−176	−201	132	−178	−516	−807	−966	617	−366	
10′	9	−23	−42	−62	−67	45	−81	−206	−289	−301	188	−401	
9′	13	−23	−63	−94	−103	72	−117	−316	−456	−436	339	−558	
8′	13	−22	−62	−95	−106	71	−114	−324	−466	−516	360	−500	
7′	10	−17	−46	−72	−81	54	−85	−241	−328	−416	279	−368	
6′	5	−8	−24	−36	−41	27	−44	−123	−189	−216	143	−193	
5′	2	−5	−12	−18	−21	6	−24	−66	−97	−90	71	−130	
4′	4	−6	−18	−27	−31	21	−36	−99	−150	−167	114	−191	
3′	4	−6	−18	−27	−32	21	−35	−99	−152	−172	116	−185	
2′	3	−5	−13	−19	−23	16	−26	−78	−108	−128	88	−139	
1′	1	−2	−6	−10	−12	8	−13	−36	−60	−67	45	−71	

Table 13. Influence Coefficient of Bending Moment M_x on the Simple Support for the Case of $A=9$, $B=1$ and $\kappa=0$ (left), $=1$ (right) (unit: 10^{-4} P/K)

Point	$M_{A,x}$	$M_{B,x}$	$M_{C,x}$	$M_{D,x}$	$M_{E,x}$	$M_{A,x}$	$M_{B,x}$	$M_{C,x}$	$M_{D,x}$	$M_{E,x}$
1	31 5	5 1	— 1	—18 2	— 3 6	146 4	41 3	10 5	— 69 1	—18 8
2	44 4	8 8	— 2	—39 9	— 6 4	187 1	69 6	19 7	—126 3	—36 3
3	44 0	10 3	— 4	—44 0	— 7 8	168 8	76 0	24 2	—163 7	—47 9
4	34 4	9 0	— 4	—44 9	— 7 2	120 2	62 2	22 1	—170 0	—48 7
5	18 7	5 2	— 3	—32 0	— 4 5	59 6	34 4	13 3	—126 1	—34 0
6	1 7	12 4	2 9	— 2 6	— 6 3	20 0	67 6	22 2	— 26 8	—33 0
7	2 2	16 6	5 4	— 4 0	—11 8	18 9	86 4	38 4	— 41 9	—61 7
8	1 7	15 7	6 3	— 3 9	—15 7	9 9	77 6	42 8	— 43 9	—81 4
9	9	11 8	5 6	— 2 7	—16 6	1 0	54 8	35 7	— 33 0	—85 5
10	2	6 2	3 3	— 1 1	—12 4	— 3 1	27 0	20 1	— 13 8	—68 2
11	—12 4	1	11 9	6 5	— 1 1	—55 2	2 5	60 3	16 9	—12 4
12	—16 5	— 4	15 7	1 22	— 1 5	—71 4	— 3 9	75 2	37 0	—18 2
13	—15 5	— 10	14 7	16 0	— 1 4	—66 4	—10 1	66 2	56 4	—17 1
14	—11 5	— 12	10 9	16 8	— 7	—49 7	—12 4	46 2	67 4	—10 2
15	— 6 0	— 9	5 7	12 4	— 1	—26 4	— 9 1	22 7	56 2	— 1 3
16	— 3 3	—11 8	0	3 6	5 7	—18 8	—58 7	2	16 7	21 6
17	— 5 1	—15 6	— 5	6 0	10 8	—26 5	—76 0	— 7 3	29 8	44 3
18	— 5 4	—14 6	— 1 1	6 8	14 5	—25 6	—70 5	—13 6	36 0	64 0
17′	— 4 2	—10 8	— 1 3	5 8	15 6	—19 0	—52 4	—15 0	32 6	73 2
16′	— 2 3	— 5 7	— 1 0	3 3	11 8	— 9 5	—27 6	—10 4	18 9	59 1
15′	— 5	— 3 0	—11 8	6	3 2	— 5 4	—19 6	—59 7	7 6	18 2
14′	— 8	— 4 7	—15 7	9	5 4	— 7 8	—27 5	—77 6	12 3	32 1
13′	— 9	— 4 9	—14 7	1 0	6 2	— 7 6	—26 6	—72 2	13 2	38 4
12′	— 8	— 3 9	—10 9	8	5 3	— 5 6	—19 7	—53 8	10 6	34 4
11′	— 5	— 2 1	— 5 8	5	3 0	— 2 7	— 9 9	—28 5	5 5	19 8
10′	0	— 4	— 3 1	— 1	5	— 1 5	— 5 9	—21 0	2 7	8 5
9′	— 1	— 7	— 4 9	— 2	8	— 2 2	— 8 6	—30 0	4 1	13 8
8′	0	— 8	— 5 1	— 1	9	— 2 2	— 8 4	—29 4	4 2	15 0
7′	0	— 7	— 4 0	— 1	7	— 1 5	— 6 2	—22 0	3 2	12 0
6′	0	— 4	— 2 2	— 1	4	— 8	— 3 1	—11 2	1 6	6 2
5′	1	3	1	— 1	— 5	— 6	— 2 3	— 9 0	1 1	4 1
4′	2	5	0	— 2	— 8	— 8	— 3 3	—13 1	1 7	6 4
3′	2	5	— 2	— 2	— 8	— 8	— 3 2	—12 8	1 6	6 6
2′	2	3	— 2	— 2	— 6	— 6	— 2 3	— 9 5	1 2	5 1
1′	1	2	— 2	—1	— 3	— 3	— 1 1	— 4 8	6	2 5

Table 14. Influence Coefficient of Bending Moment M_x on the Simple Support for the Case of $A=16$, $B=1$ and $\kappa=0$ (left) (unit: 10^{-5} P/K), $=1$ (right) (unit: 10^{-6} P/K)

Point	$M_{A,x}$	$M_{B,x}$	$M_{C,x}$	$M_{D,x}$	$M_{E,x}$	$M_{A,x}$	$M_{B,x}$	$M_{C,x}$	$M_{D,x}$	$M_{E,x}$
1	111 79	8 30	— 1 56	— 68 49	— 6 46	108 900	22 600	4 210	— 55 237	—11 766
2	160 95	14 53	— 2 88	—125 95	—11 56	145 000	38 975	7 971	—100 904	—22 530
3	322 78	16 96	— 3 57	—160 91	—13 95	135 898	43 772	9 983	—130 117	—29 323
4	127 37	14 85	— 3 16	—160 85	—12 69	100 362	36 911	9 131	—133 420	—29 240
5	69 59	8 67	— 2 01	—112 11	— 7 67	51 668	21 001	5 601	— 97 040	—19 872
6	1 63	49 45	6 40	— 3 12	—28 42	10 730	51 395	12 160	— 15 164	—27 127
7	1 76	69 59	11 33	— 4 64	—52 72	11 287	68 768	21 293	— 23 798	—50 476
8	88	68 59	13 33	— 4 34	—68 30	7 014	64 730	24 438	— 24 931	—65 967
9	— 13	53 14	11 75	— 2 78	—69 53	2 141	48 054	20 941	— 18 906	—68 347
10	— 51	28 73	6 91	— 1 00	—49 52	— 745	24 959	12 124	— 8 329	—50 152
11	—49 72	15	48 31	29 38	— 1 82	—46 120	815	43 073	— 20 283	— 6 317
12	—69 66	— 57	67 62	54 06	— 2 59	—61 761	— 2 497	63 491	39 863	— 9 074
13	—68 24	— 1 56	66 33	69 40	— 2 20	—58 803	— 5 804	59 192	55 088	— 8 248
14	—52 54	— 2 04	51 21	70 08	— 1 12	—44 589	— 7 003	43 708	60 226	— 4 670
15	—28 27	— 1 51	27 63	49 65	— 16	—23 851	— 5 140	22 693	46 364	— 476
16	— 6 51	—48 23	0	7 06	27 75	—11 054	—47 692	30	10 986	22 407
17	—10 59	—67 33	— 82	11 99	51 09	—16 094	—63 983	— 3 712	18 976	45 326
18	—11 45	—65 82	— 1 85	13 58	66 18	—15 961	—60 910	— 7 052	22 185	58 610
17′	— 9 35	—50 64	— 2 28	11 53	67 48	—12 094	—46 097	— 7 964	19 465	6 298
16′	— 5 15	—27 25	— 1 64	6 51	48 22	— 6 194	—24 575	— 5 641	11 067	47 772
15′	16	— 6 25	—48 28	— 26	6 73	— 2 257	—11 315	—47 944	3 191	11 437
14′	15	—10 16	—67 41	— 41	11 44	— 3 352	—16 482	—64 404	5 127	19 689
13′	5	—10 99	—65 93	— 41	12 99	— 3 335	—16 340	—61 384	5 487	22 924
12′	— 3	— 8 97	—50 75	— 30	11 05	— 2 503	—12 378	—46 497	4 360	20 046
11′	— 4	— 4 94	—27 32	— 15	6 25	— 1 254	— 6 336	—24 802	2 262	11 359
10′	23	16	— 6 41	— 31	— 27	— 443	— 2 382	—11 806	741	3 418
9′	36	17	—10 43	— 50	— 43	— 661	— 3 564	—17 346	1 146	5 512
8′	37	7	—11 29	— 52	— 44	— 656	— 3 570	—17 337	1 180	5 919
7′	29	— 1	— 9 22	— 42	— 34	— 489	— 2 694	—13 233	902	4 720
6′	16	— 3	— 5 08	— 23	— 17	— 244	— 1 360	— 6 827	457	2 463
5′	4	49	1 52	— 4	— 64	— 123	— 7 051	— 3 841	227	1 203
4′	7	79	2 29	— 7	— 1 04	— 182	— 1 052	— 5 743	341	1 868
3′	8	84	2 29	— 8	— 1 11	— 161	— 1 042	— 5 752	341	1 923
2′	7	67	1 73	— 7	— 90	— 131	— 775	— 4 348	254	1 474
1′	4	36	90	— 4	— 49	— 66	— 385	— 2 204	127	748

Table 15. Influence Coefficient of Bending Moment M_y on the Simple Support for the Case of $A=9$, $B=1$ and $\kappa=0$ (left), $=1$ (right) (unit: 10^{-5} PK)

Point	$\bar{M}_{A,y}$	$M_{B,y}$	$M_{C,y}$	$M_{D,y}$	$M_{E,y}$	$M_{A,y}$	$M_{B,y}$	$M_{C,y}$	$M_{D,y}$	$M_{E,y}$
1	—31 46	— 5 06	10	18 23	3 55	—16 26	—4 59	—1 16	7 68	2 09
2	—44 42	— 8 83	24	33 86	6 40	—20 79	—7 73	—2 19	14 03	4 03
3	—44 02	—10 27	36	43 96	7 82	—18 75	—8 44	—2 69	18 19	5 32
4	—34 35	— 8 97	37	44 85	7 23	—13 35	—6 91	—2 45	18 88	5 41
5	—18 72	— 5 24	25	32 00	4 45	— 6 62	—3 82	—1 48	14 01	3 78
6	— 1 74	—12 41	— 2 92	2 58	6 25	— 2 23	—7 51	—2 47	2 98	3 67
7	— 2 20	—16 64	— 5 40	3 95	11 78	— 2 10	—9 60	—4 27	4 66	6 86
8	— 1 72	—15 71	— 6 33	3 87	15 70	— 1 10	—8 62	—4 76	4 86	9 04
9	— 86	—11 75	— 5 57	2 67	16 61	— 12	—6 08	—3 97	3 67	9 51
10	— 20	— 6 20	— 3 28	1 09	12 40	35	—3 00	—2 24	1 53	7 13
11	12 43	— 6	—11 87	— 6 52	1 06	61 4	— 27	—6 70	—1 88	1 38
12	16 52	43	—15 72	—12 18	1 54	7 93	43	—8 36	—4 11	2 02
13	15 45	1 00	—14 69	—16 02	1 35	7 38	1 13	—7 36	—6 27	1 90
14	11 47	1 23	—10 90	—16 76	73	5 52	1 38	—5 14	—7 49	1 13
15	6 03	89	— 5 73	—12 41	11	2 94	1 01	—2 52	— 624	15
16	3 26	11 79	— 1	— 3 35	— 5 66	2 09	6 53	— 2	—1 86	—2 40
17	5 11	15 59	52	— 6 00	—10 78	2 94	8 44	81	—3 31	—4 92
18	5 35	14 55	1 12	— 6 79	—14 53	2 84	7 83	1 51	—4 00	—7 11
17′	4 24	10 82	1 34	— 5 77	—15 57	2 11	5 82	1 66	—3 63	—8 13
16′	2 29	5 70	95	— 3 25	—11 77	1 06	3 07	1 16	—2 10	—6 57
15′	46	2 98	11 82	— 55	— 3 17	60	2 18	6 63	— 84	—2 02
14′	81	4 68	15 66	— 91	— 5 40	87	3 06	8 62	—1 36	—3 56
13′	94	4 91	14 65	— 1 00	— 6 16	84	2 95	8 02	—1 47	—4 26
12′	80	3 91	10 91	— 83	— 5 27	62	2 19	5 98	—1 17	—3 83
11′	45	2 11	5 76	— 46	— 2 99	30	1 10	3 16	— 61	—2 20
10′	— 4	40	3 09	10	— 48	17	65	2 33	— 30	— 94
9′	5	72	4 85	15	— 78	25	95	3 33	— 46	—1 53
8′	3	83	5 09	14	— 85	24	93	3 26	— 47	—1 66
7′	0	70	4 04	10	— 70	18	69	2 45	— 36	—1 33
6′	0	39	2 18	5	— 38	9	34	1 25	— 18	— 69
5′	— 12	— 32	— 12	12	48	6	25	1 00	— 12	— 46
4′	— 18	— 47	— 2	19	76	9	37	1 45	— 18	— 72
3′	— 20	— 46	16	21	78	9	40	1 42	— 18	— 74
2′	— 15	— 34	24	17	60	6	26	1 06	— 13	— 56
1′	— 8	— 17	18	9	31	3	13	53	— 6	— 28

Table 16. Influence Coefficient of Bending Moment M_y on the Simple Support for the Case of $A=16$, $B=1$ and $\kappa=0$ (left), $=1$ (right) (unit: 10^{-6} PK)

Point	$M_{A,y}$	$M_{B,y}$	$M_{C,y}$	$M_{D,y}$	$M_{E,y}$	$M_{A,y}$	$M_{B,y}$	$M_{C,y}$	$M_{D,y}$	$M_{E,y}$
1	−11 179	− 830	156	6 849	646	−6 806	−1 412	− 263	3 452	735
2	−16 095	−1 453	288	12 595	1 156	−9 062	−2 436	− 498	6 306	1 408
3	−32 278	−1 696	357	16 091	1 395	−8 494	−2 736	− 624	8 132	1 833
4	−12 737	−1 485	316	16 085	1 269	−6 273	−2 307	− 571	8 339	1 828
5	− 6 959	− 867	201	11 211	767	−3 229	−1 313	− 350	6 065	1 242
6	− 163	−4 945	− 640	312	2 842	− 671	−3 212	− 760	948	1 695
7	− 176	−6 959	−1 133	464	5 272	− 705	−4 298	−1 331	1 487	3 155
8	− 88	−6 859	−1 333	434	6 830	− 438	−4 046	−1 527	1 558	4 123
9	13	−5 314	−1 175	278	6 953	− 134	−3 003	−1 309	1 182	4 272
10	51	−2 873	− 691	100	4 952	47	−1 560	− 758	521	3 135
11	4 972	− 15	−4 831	−2 938	182	2 883	− 51	−3 005	−1 268	395
12	6 966	57	−6 762	−5 406	259	3 860	56	−3 968	−2 491	567
13	6 824	156	−6 633	−6 940	220	3 675	363	−3 700	−3 443	516
14	5 254	204	−5 121	−7 008	112	2 787	438	−2 732	−3 764	292
15	2 827	151	−2 763	−4 965	16	1 491	321	−1 418	−2 898	30
16	651	4 823	0	− 706	−2 757	691	2 981	− 2	− 687	−1 400
17	1 059	6 733	82	−1 199	−5 109	1 006	3 999	232	−1 186	−2 833
18	1 145	6 582	185	−1 358	−6 618	998	3 807	441	−1 387	−3 663
17′	935	5 064	228	−1 153	−6 748	756	2 881	498	−1 217	−3 936
16′	575	2 725	164	− 651	−4 822	387	1 536	353	− 692	−2 986
15′	− 16	625	4 828	26	− 673	141	707	2 996	− 200	− 715
14′	− 15	1 016	6 741	41	−1 144	210	1 030	4 025	− 320	−1 230
13′	− 5	1 099	6 593	41	−1 299	208	1 021	3 836	− 343	−1 433
12′	3	897	5 075	30	−1 105	156	774	2 906	− 273	−1 253
11′	4	494	2 732	15	− 625	78	396	1 550	− 141	− 710
10′	− 23	− 16	641	31	27	28	49	738	− 46	− 214
9′	− 36	− 17	1 043	50	43	41	223	1 084	− 72	− 345
8′	− 37	− 7	1 129	52	44	41	223	1 084	− 74	− 370
7′	− 29	1	922	42	34	31	168	827	− 56	− 295
6′	− 16	3	508	23	17	15	85	427	− 29	− 154
5′	− 4	− 49	− 152	4	64	8	44	240	− 14	− 75
4′	− 7	− 79	− 229	7	104	11	66	359	− 21	− 117
3′	− 8	− 84	− 229	8	111	11	65	359	− 21	− 120
2′	− 7	− 67	− 173	7	90	8	48	272	− 16	− 92
1′	− 4	− 36	− 90	4	49	4	24	138	− 8	− 47