

Studies in Engineering Mechanics
Report Number 32

Appendix IV

**EFFECT OF THE VARIATION OF STRUCTURAL PARAMETERS ON THE VIBRATIONAL
CHARACTERISTICS OF STEEL JOIST-CONCRETE SLAB FLOOR SYSTEMS AND
SUGGESTED DESIGNS**

by

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and

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THE UNIVERSITY OF KANSAS • CENTER FOR RESEARCH INC
ENGINEERING SCIENCE DIVISION • LAWRENCE, KANSAS

		IYY		IXX		XG		NO.		FQN		AO		COMP		STIF
COUNTRYSIDE METHODIST CHURCH	1	1.500E	02	3.125E	00	7.898E	01	4.209E	00	2.282E	01	9.785E-03		2.233E-01		1.207E 05
COUNTRYSIDE METHODIST CHURCH	2	2.000E	01	2.318E	00	6.745E	01	4.825E	00	3.187E	01	1.506E-02		4.800E-01		1.073E 05
EASTRIN CONSTRUCTION CO.	1	8.284E	02	5.512E	00	1.496E	02	7.759E	00	7.183E	00	4.939E-03		3.548E-02		7.677E 04
FEDERAL AVIATION AGENCY	1	2.908E	02	9.527E	00	1.421E	02	7.516E	00	1.022E	01	5.348E-03		5.466E-02		1.007E 05
FEDERAL AVIATION AGENCY	2	2.908E	02	9.527E	00	1.399E	02	7.415E	00	1.055E	01	5.333E-03		5.628E-02		1.042E 05
KANSAS CITY MORTGAGE CO.	1	1.594E	02	5.175E	00	1.279E	02	7.101E	00	1.052E	01	7.785E-03		8.189E-02		7.116E 04
KANSAS CITY MORTGAGE CO.	2	8.623E	01	4.950E	00	9.968E	01	5.797E	00	1.750E	01	8.990E-03		1.574E-01		1.017E 05
KANSAS CITY MORTGAGE CO.	3	8.623E	01	4.950E	00	1.033E	02	5.994E	00	1.629E	01	9.027E-03		1.471E-01		9.445E 04
KANSAS CITY MORTGAGE CO.	4	1.859E	02	4.500E	00	1.184E	02	7.513E	00	1.206E	01	7.145E-03		8.614E-02		8.873E 04
KANSAS CITY MORTGAGE CO.	5	1.798E	02	4.500E	00	8.100E	01	5.110E	00	2.627E	01	7.226E-03		1.898E-01		1.869E 05
KANSAS CITY MORTGAGE CO.	6	1.798E	02	4.500E	00	1.316E	02	8.398E	00	9.948E	00	7.322E-03		7.284E-02		7.158E 04
MEMORIAL EVANGELICAL CHURCH	1	1.216E	02	5.175E	00	8.285E	01	4.618E	00	2.505E	01	8.123E-03		2.035E-01		1.599E 05
MEMORIAL EVANGELICAL CHURCH	2	2.355E	01	4.950E	00	6.392E	01	3.655E	00	4.308E	01	1.200E-02		5.169E-01		1.758E 05
MEMORIAL EVANGELICAL CHURCH	3	1.209E	02	4.950E	00	1.374E	02	7.958E	00	9.087E	00	8.265E-03		7.511E-02		5.797E 04
MEMORIAL EVANGELICAL CHURCH	4	8.295E	02	7.875E	00	1.463E	02	5.316E	00	8.053E	00	5.777E-03		4.652E-02		7.354E 04
OLD MISSION METHODIST CHURCH	1	7.718E	01	2.214E	00	1.117E	02	8.387E	00	1.139E	01	1.078E-02		1.228E-01		5.556E 04
OLD MISSION METHODIST CHURCH	2	7.718E	01	2.214E	00	1.117E	02	8.387E	00	1.139E	01	1.078E-02		1.228E-01		5.556E 04
PACIFIC INDEMNITY INS. CO.	1	3.029E	02	2.943E	00	8.791E	01	4.925E	00	1.794E	01	8.023E-03		1.439E-01		1.167E 05
PACIFIC INDEMNITY INS. CO.	2	3.029E	02	2.943E	00	8.591E	01	4.837E	00	1.878E	01	7.972E-03		1.497E-01		1.228E 05
PACIFIC INDEMNITY INS. CO.	3	3.029E	02	2.943E	00	8.591E	01	4.837E	00	1.878E	01	7.972E-03		1.497E-01		1.228E 05
PACIFIC INDEMNITY INS. CO.	4	3.029E	02	2.943E	00	8.591E	01	4.837E	00	1.878E	01	7.972E-03		1.497E-01		1.228E 05
LIBERTY MUTUAL INS. CO.	1	1.857E	02	5.400E	00	1.261E	02	6.699E	00	1.074E	01	7.540E-03		8.097E-02		7.499E 04
LIBERTY MUTUAL INS. CO.	2	1.857E	02	5.400E	00	1.261E	02	6.699E	00	1.074E	01	7.540E-03		8.097E-02		7.499E 04
LIBERTY MUTUAL INS. CO.	3	1.857E	02	5.400E	00	1.261E	02	6.699E	00	1.074E	01	7.540E-03		8.097E-02		7.499E 04
LIBERTY MUTUAL INS. CO.	4	1.857E	02	5.400E	00	1.261E	02	6.699E	00	1.074E	01	7.540E-03		8.097E-02		7.499E 04
RAYTOWN JR. HIGH SCHCOL	1	1.854E	02	5.287E	00	1.360E	02	7.368E	00	9.229E	00	7.512E-03		6.934E-02		6.477E 04
RAYTOWN JR. HIGH SCHCOL	2	5.304E	01	5.287E	00	8.403E	01	4.587E	00	2.486E	01	1.026E-02		2.551E-01		1.250E 05
RAYTOWN JR. HIGH SCHCOL	3	1.854E	02	5.287E	00	1.390E	02	7.509E	00	8.829E	00	7.539E-03		6.656E-02		6.176E 04
RAYTOWN JR. HIGH SCHCOL	4	1.854E	02	5.287E	00	1.360E	02	7.368E	00	9.229E	00	7.512E-03		6.934E-02		6.477E 04
RAYTOWN JR. HIGH SCHCOL	5	1.811E	02	4.500E	00	1.263E	02	8.055E	00	1.060E	01	7.173E-03		7.602E-02		7.780E 04
SAINT PAUL CHURCH	1	1.811E	02	4.500E	00	1.263E	02	8.055E	00	1.060E	01	7.173E-03		7.602E-02		7.780E 04
SOUTHWEST BIBLE CHURCH	1	1.132E	02	8.575E	00	1.291E	02	6.869E	00	1.222E	01	7.166E-03		8.755E-02		8.964E 04
SOUTHWEST BIBLE CHURCH	2	4.292E	02	8.575E	00	8.374E	01	4.480E	00	2.839E	01	4.857E-03		1.379E-01		2.990E 05
SOUTHWEST BIBLE CHURCH	3	4.292E	02	8.575E	00	1.882E	02	9.978E	00	5.619E	00	5.061E-03		2.644E-02		5.865E 04
FIRST ASSEMBLY OF GOD CHURCH	1	8.258E	02	5.400E	00	1.348E	02	7.172E	00	8.832E	00	4.877E-03		4.307E-02		9.549E 04
FIRST ASSEMBLY OF GOD CHURCH	2	8.297E	02	5.017E	00	1.372E	02	7.826E	00	8.456E	00	4.765E-03		4.030E-02		9.360E 04
FIRST ASSEMBLY OF GOD CHURCH	3	2.712E	02	5.512E	00	1.205E	02	6.234E	00	1.165E	01	6.866E-03		8.001E-02		8.930E 04
U. S. FIDELITY AND GARANTY CO.	1	3.933E	02	5.400E	00	1.256E	02	6.668E	00	1.034E	01	5.976E-03		6.182E-02		9.118E 04
U. S. FIDELITY AND GARANTY CO.	2	3.933E	02	5.400E	00	1.256E	02	6.668E	00	1.034E	01	5.976E-03		6.182E-02		9.118E 04
U. S. FIDELITY AND GARANTY CO.	3	3.452E	02	5.400E	00	1.298E	02	6.907E	00	9.798E	00	6.230E-03		6.104E-02		8.288E 04
U. S. FIDELITY AND GARANTY CO.	4	3.452E	02	5.400E	00	1.298E	02	6.907E	00	9.798E	00	6.230E-03		6.104E-02		8.288E 04
2200 BUILDING	1	1.312E	02	3.125E	00	9.500E	01	4.989E	00	1.566E	01	1.031E-02		1.615E-01		7.954E 04
2200 BUILDING	2	1.312E	02	3.125E	00	9.500E	01	4.989E	00	1.566E	01	1.031E-02		1.615E-01		7.954E 04
2200 BUILDING	3	1.312E	02	3.125E	00	9.500E	01	4.989E	00	1.566E	01	1.031E-02		1.615E-01		7.954E 04

		IYY	IXX	XO	NO.	FQN	AO	COMP	STIP
COUNTRYSIDE METHODIST CHURCH	1	1.500E 02	3.125E 00	7.898E 01	4.209E 00	2.282E 01	2.944E-03	6.717E-02	1.207E 05
COUNTRYSIDE METHODIST CHURCH	2	2.000E 01	2.318E 00	6.745E 01	4.825E 00	3.187E 01	4.532E-03	1.444E-01	1.073E 05
EASTRIN CONSTRUCTION CO.	1	8.284E 02	5.512E 00	1.496E 02	7.759E 00	7.183E 00	1.486E-03	1.067E-02	7.677E 04
FEDERAL AVIATION AGENCY	1	2.908E 02	9.527E 00	1.421E 02	7.516E 00	1.022E 01	1.609E-03	1.645E-02	1.007E 05
FEDERAL AVIATION AGENCY	2	2.908E 02	9.527E 00	1.399E 02	7.415E 00	1.055E 01	1.605E-03	1.693E-02	1.012E 05
KANSAS CITY MORTGAGE CO.	1	1.594E 02	5.175E 00	1.279E 02	7.101E 00	1.052E 01	2.342E-03	2.464E-02	7.116E 04
KANSAS CITY MORTGAGE CO.	2	8.623E 01	4.950E 00	9.968E 01	5.797E 00	1.750E 01	2.705E-03	4.734E-02	1.017E 05
KANSAS CITY MORTGAGE CO.	3	8.623E 01	4.950E 00	1.033E 02	5.994E 00	1.629E 01	2.716E-03	4.425E-02	9.445E 04
KANSAS CITY MORTGAGE CO.	4	1.859E 02	4.500E 00	1.184E 02	7.513E 00	1.206E 01	2.150E-03	2.591E-02	8.873E 04
KANSAS CITY MORTGAGE CO.	5	1.798E 02	4.500E 00	8.100E 01	5.110E 00	2.627E 01	2.174E-03	5.711E-02	1.869E 05
KANSAS CITY MORTGAGE CO.	6	1.798E 02	4.500E 00	1.316E 02	8.398E 00	9.948E 00	2.203E-03	2.191E-02	7.158E 04
MEMORIAL EVANGELICAL CHURCH	1	1.216E 02	5.175E 00	8.285E 01	4.618E 00	2.505E 01	2.444E-03	6.122E-02	1.590E 05
MEMORIAL EVANGELICAL CHURCH	2	2.355E 01	4.950E 00	6.392E 01	3.655E 00	4.308E 01	3.609E-03	1.555E-01	1.758E 05
MEMORIAL EVANGELICAL CHURCH	3	1.209E 02	4.950E 00	1.374E 02	7.958E 00	9.087E 00	2.486E-03	2.260E-02	5.797E 04
MEMORIAL EVANGELICAL CHURCH	4	8.295E 02	7.875E 00	1.463E 02	5.316E 00	8.053E 00	1.738E-03	1.400E-02	7.354E 04
OLD MISSION METHODIST CHURCH	1	7.718E 01	2.214E 00	1.117E 02	8.387E 00	1.139E 01	3.244E-03	3.694E-02	5.556E 04
OLD MISSION METHODIST CHURCH	2	7.718E 01	2.214E 00	1.117E 02	8.387E 00	1.139E 01	3.244E-03	3.694E-02	5.556E 04
PACIFIC INDEMNITY INS. CO.	1	3.029E 02	2.943E 00	8.791E 01	4.925E 00	1.794E 01	2.414E-03	4.330E-02	1.167E 05
PACIFIC INDEMNITY INS. CO.	2	3.029E 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	2.399E-03	4.505E-02	1.228E 05
PACIFIC INDEMNITY INS. CO.	3	3.029E 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	2.399E-03	4.505E-02	1.228E 05
PACIFIC INDEMNITY INS. CO.	4	3.029E 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	2.399E-03	4.505E-02	1.228E 05
LIBERTY MUTUAL INS. CO.	1	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.269E-03	2.436E-02	7.499E 04
LIBERTY MUTUAL INS. CO.	2	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.269E-03	2.436E-02	7.499E 04
LIBERTY MUTUAL INS. CO.	3	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.269E-03	2.436E-02	7.499E 04
LIBERTY MUTUAL INS. CO.	4	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.269E-03	2.436E-02	7.499E 04
RAYTOWN JR. HIGH SCHCOL	1	1.854E 02	5.287E 00	1.360E 02	7.368E 00	9.229E 00	2.260E-03	2.086E-02	6.477E 04
RAYTOWN JR. HIGH SCHCOL	2	5.304E 01	5.287E 00	8.403E 01	4.587E 00	2.486E 01	3.086E-03	7.674E-02	1.250E 05
RAYTOWN JR. HIGH SCHCOL	3	1.854E 02	5.287E 00	1.390E 02	7.509E 00	8.829E 00	2.268E-03	2.003E-02	6.176E 04
RAYTOWN JR. HIGH SCHCOL	4	1.854E 02	5.287E 00	1.360E 02	7.368E 00	9.229E 00	2.260E-03	2.086E-02	6.477E 04
RAYTOWN JR. HIGH SCHCOL	5	1.811E 02	4.500E 00	1.263E 02	8.055E 00	1.060E 01	2.155E-03	2.287E-02	7.780E 04
SAINT PAUL CHURCH	1	1.811E 02	4.500E 00	1.263E 02	8.055E 00	1.060E 01	2.155E-03	2.287E-02	7.780E 04
SOUTHWEST BIBLE CHLRCH	1	1.132E 02	8.575E 00	1.291E 02	6.869E 00	1.222E 01	2.156E-03	2.634E-02	8.964E 04
SOUTHWEST BIBLE CHLRCH	2	4.292E 02	8.575E 00	8.374E 01	4.480E 00	2.839E 01	1.461E-03	4.148E-02	2.990E 05
SOUTHWEST BIBLE CHLRCH	3	4.292E 02	8.575E 00	1.882E 02	9.978E 00	5.619E 00	1.523E-03	8.556E-03	5.865E 04
FIRST ASSEMBLY OF GOD CHURCH	1	8.258E 02	5.400E 00	1.346E 02	7.172E 00	8.832E 00	1.467E-03	1.296E-02	9.549E 04
FIRST ASSEMBLY OF GOD CHURCH	2	8.297E 02	5.017E 00	1.372E 02	7.826E 00	8.456E 00	1.434E-03	1.212E-02	9.360E 04
FIRST ASSEMBLY OF GOD CHURCH	3	2.712E 02	5.512E 00	1.205E 02	6.234E 00	1.165E 01	2.066E-03	2.407E-02	8.930E 04
U. S. FIDELITY AND GARANTY CO.	1	3.933E 02	5.400E 00	1.256E 02	6.668E 00	1.034E 01	1.798E-03	1.860E-02	9.118E 04
U. S. FIDELITY AND GARANTY CO.	2	3.933E 02	5.400E 00	1.256E 02	6.668E 00	1.034E 01	1.798E-03	1.860E-02	9.118E 04
U. S. FIDELITY AND GARANTY CO.	3	3.452E 02	5.400E 00	1.298E 02	6.907E 00	9.798E 00	1.874E-03	1.836E-02	8.288E 04
U. S. FIDELITY AND GARANTY CO.	4	3.452E 02	5.400E 00	1.298E 02	6.907E 00	9.798E 00	1.874E-03	1.836E-02	8.288E 04
2200 BUILDING	1	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	3.102E-03	4.857E-02	7.954E 04
2200 BUILDING	2	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	3.102E-03	4.857E-02	7.954E 04
2200 BUILDING	3	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	3.102E-03	4.857E-02	7.954E 04

	HUMAN	KT1= 20	KT2= 60	TMH=0,041000				
	MECH	KT1= 15	KT2= 40	TMM=0,028000				
KC MORTGAGE	1	6	284.00	1131.90	0.11628	10.35 10.52	0.011182	0.007710
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0,028000				
	MECH	KT1= 15	KT2= 40	TMM=0,018000				
KC MORTGAGE	2	7	192.00	499.91	0.08879	17.22 17.50	0.010008	0.008478
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0,030000				
	MECH	KT1= 15	KT2= 40	TMM=0,019000				
KC MORTGAGE	3	8	199.00	516.88	0.09180	16.03 16.29	0.010457	0.008560
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0,037000				
	MECH	KT1= 15	KT2= 40	TMM=0,025000				
KC MORTGAGE	4	9	283.00	1396.51	0.11078	11.86 12.06	0.009617	0.006996
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0,021000				
	MECH	KT1= 4	KT2= 20	TMM=0,014000				
KC MORTGAGE	5	10	192.00	918.70	0.07245	25.84 26.27	0.006214	0.006632
			L	I	M	FN	AOH	AOM

	HUMAN	KT1= 20	KT2= 60	TMH=0.043000				
	MECH	KT1= 15	KT2= 40	TMM=0.030000				
KC MORTGAGE	6	11	312.00	1509.74	0.11905	9.79	0.010694	0.007285
			L	I	M	9.948		
						FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.022000				
	MECH	KT1= 4	KT2= 20	TMM=0.014000				
MEMORIAL EVANGELICAL	1	12	172.00	561.78	0.07563	24.64	0.007245	0.007474
			L	I	M	25.05		
						FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.015000				
	MECH	KT1= 4	KT2= 20	TMM=0.010000				
MEMORIAL EVANGELICAL	2	13	89.00	86.07	0.05465	42.38	0.006866	0.010617
			L	I	M	43.08		
						FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.045000				
	MECH	KT1= 15	KT2= 40	TMM=0.032000				
MEMORIAL EVANGELICAL	3	14	288.00	961.69	0.12517	8.94	0.012427	0.008289
			L	I	M	9.087		
						FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.049000				
	MECH	KT1= 15	KT2= 40	TMM=0.036000				
MEMORIAL EVANGELICAL	4	15	442.00	4409.86	0.13176	7.92	0.009000	0.005839
			L	I	M	8.053		
						FN	AOH	AOM

SET TIME		L	I	M	FN	AOH	AOM	
HUMAN	KT1= 8 KT2= 35 TMH=0.024000							
MECH	KT1= 4 KT2= 20 TMM=0.015000							
COUNTRYSIDE METH.,1	1	196.00	631.33	0.06076	22.45	0.009282	0.009048	
		L	I	M	22.83 FN	AOH	AOM	
HUMAN	KT1= 8 KT2= 35 TMH=0.019000							
MECH	KT1= 4 KT2= 20 TMM=0.012000							
COUNTRYSIDE METH.2	2	109.00	96.49	0.04978	31.35	0.011204	0.013703	
		L	I	M	31.18 FN	AOH	AOM	
HUMAN	KT1= 20 KT2= 60 TMH=0.053000							
MECH	KT1= 15 KT2= 40 TMM=0.039000							
EASTRIN	1	3	494.00	6427.40	0.15466	7.07	0.007901	0.005035
		L	I	M	7.18 FN	AOH	AOM	
HUMAN	KT1= 20 KT2= 60 TMH=0.042000							
MECH	KT1= 15 KT2= 40 TMM=0.029000							
FEDERAL AVIATION	1	4	315.00	2185.23	0.15710	10.05	0.007662	0.005313
		L	I	M	10.22 FN	AOH	AOM	
HUMAN	KT1= 20 KT2= 60 TMH=0.041000							
MECH	KT1= 15 KT2= 40 TMM=0.028000							
FEDERAL AVIATION	2	5	310.00	2155.84	0.15499	10.38	0.007652	0.005282
		L	I	M	10.55 FN	AOH	AOM	

	HUMAN	KT1= 20	KT2= 60	TMH=0.038000				
	MECH	KT1= 15	KT2= 40	TMM=0.026000				
OLD MISSION	1	16	256.00	647.33	0.08596	11.20 11.39	0.014900	0.010594
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.038000				
	MECH	KT1= 15	KT2= 40	TMM=0.026000				
OLD MISSION	2	17	256.00	647.33	0.08596	11.20 11.39	0.014900	0.010594
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.028000				
	MECH	KT1= 15	KT2= 40	TMM=0.018000				
PACIFIC INDEMNITY	1	18	264.00	1491.57	0.07056	17.65 17.94	0.008796	0.007556
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.027000				
	MECH	KT1= 15	KT2= 40	TMM=0.017000				
PACIFIC INDEMNITY	2	19	258.00	1464.96	0.06930	18.48 18.78	0.008543	0.007474
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.027000				
	MECH	KT1= 15	KT2= 40	TMM=0.017000				
PACIFIC INDEMNITY	3	20	258.00	1464.96	0.06930	18.48 18.78	0.008543	0.007474
			L	I	M	FN	AOH	AOM

	HUMAN	KT1= 8	KT2= 35	TMH=0.027000				
	MECH	KT1= 15	KT2= 40	TMM=0.017000				
PACIFIC INDEMNITY		21	258.00	1464.96	0.06930	18.48	0.008543	0.007474
		4				18.78		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.040000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
LIBERTY MUTUAL		22	288.00	1243.99	0.11594	10.56	0.010690	0.007460
		1				10.74		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.040000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
LIBERTY MUTUAL		23	288.00	1243.99	0.11594	10.56	0.010690	0.007460
		2				10.74		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.040000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
LIBERTY MUTUAL		24	288.00	1243.99	0.11594	10.56	0.010690	0.007460
		3				10.74		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.040000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
LIBERTY MUTUAL		25	288.00	1243.99	0.11594	10.56	0.010690	0.007460
		4				10.74		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.045000				
	MECH	KT1= 15	KT2= 40	TMM=0.032000				

RAYTOWN	26	1	312.00	1365.99	0.12514	9.08 9.229	0.011255	0.007516
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.022000				
	MECH	KT1= 4	KT2= 20	TMM=0.014000				
RAYTOWN	27	2	141.00	243.30	0.07363	24.46 24.86	0.009198	0.009441
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.047000				
	MECH	KT1= 15	KT2= 40	TMM=0.033000				
RAYTOWN	28	3	319.00	1392.14	0.12754	8.68 8.829	0.011463	0.007576
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.045000				
	MECH	KT1= 15	KT2= 40	TMM=0.032000				
RAYTOWN	29	4	312.00	1365.99	0.12514	9.08 9.229	0.011255	0.007516
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.041000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
RAYTOWN	30	5	300.00	1458.71	0.11857	10.42 10.60	0.010269	0.007105
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.041000				
	MECH	KT1= 15	KT2= 40	TMM=0.028000				
SAINT PAUL	31	1	300.00	1458.71	0.11857	10.42 10.60	0.010269	0.007105
			L	I	M	FN	AOH	AOM

	HUMAN	KT1= 20	KT2= 60	TMH=0.036000				
	MECH	KT1= 15	KT2= 40	TMM=0.025000				
		32	232.00	777.31	0.13292	12.02	0.009592	0.007013
SOUTHWEST		1				12.22		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 8	KT2= 35	TMH=0.020000				
	MECH	KT1= 4	KT2= 20	TMM=0.013000				
		33	210.00	1923.03	0.09075	27.92	0.003961	0.004445
SOUTHWEST		2				28.39		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 45	KT2= 70	TMH=0.063000				
	MECH	KT1= 35	KT2= 60	TMM=0.049000				
		34	472.00	4282.99	0.20212	5.53	0.008501	0.005245
SOUTHWEST		3				5.619		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.047000				
	MECH	KT1= 15	KT2= 40	TMM=0.033000				
		35	447.00	5922.43	0.14064	8.69	0.007415	0.004901
FIRST ASSEMBLY		1				8.832		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.049000				
	MECH	KT1= 15	KT2= 40	TMM=0.034000				
		36	464.00	6493.65	0.14487	8.32	0.007337	0.004806
FIRST ASSEMBLY		2				8.456		
			L	I	M	FN	AOH	AOM

	HUMAN	KT1= 20	KT2= 60	TMH=0.038000				
	MECH	KT1= 15	KT2= 40	TMM=0.026000				
FIRST ASSEMBLY		37	301.00	1691.08	0.11218	11.46	0.009383	0.006747
		3				11.65		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.041000				
	MECH	KT1= 15	KT2= 40	TMM=0.029000				
US FIDELITY		38	346.00	2622.67	0.12645	10.18	0.008568	0.005928
		1				10.34		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.041000				
	MECH	KT1= 15	KT2= 40	TMM=0.029000				
US FIDELITY		39	346.00	2622.67	0.12645	10.18	0.008568	0.005928
		2				10.34		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.043000				
	MECH	KT1= 15	KT2= 40	TMM=0.030000				
US FIDELITY		40	346.00	2384.01	0.12813	9.64	0.009152	0.006210
		3				9.798		
			L	I	M	FN	AOH	AOM
	HUMAN	KT1= 20	KT2= 60	TMH=0.043000				
	MECH	KT1= 15	KT2= 40	TMM=0.030000				
US FIDELITY		41	346.00	2384.01	0.12813	9.64	0.009152	0.006210
		4				9.798		
			L	I	M	FN	AOH	AOM


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1      DIMENSION AIYY(44), B(44), H(44), XL(44), WJ(44), JC(44), A(44),
2      1 ARC(44), AIXX(44), G(44), E(44), XO(44), FQN(44), AO(44),
3      2 CCMP(44), STIF(44), XOA(44), KC(44), BAIYY(44)
4      3 , GAM(44)
5      CALL CLOCK (0)
6      READ (5,10) AIYY, B, H, XL, WJ
7      10 FORMAT (10F8.0)
8      READ (5,11) JC
9      11 FORMAT (10I8)
10     DO 1 I = 1, 44
11     AIXX(I) = B(I) *(H(I) **3 ) / 12.0
12     ARC(I) = B(I) * H(I)
13     G(I) = (WJ(I) + ( ARC(I) * 0.833)) / 386.4
14     E(I) = (AIXX(I) / AIYY(I)) ** 0.25
15     XO(I) = 1.06065 * E(I) * XL(I)
16     XOA(I) = XO(I) * 10.0
17     KC(I) = JC(I) * 20
18     CALL SUMN (A, XOA, JC, KC ,I )
19     FQN(I) = 1.57* ((( 30.0E6 * AIYY(I)) / G(I)) **0.5) *
20     1 ( 1.0 / ( XL(I) **2))
21     AO(I) = 2.34E-6 * ((XL(I)**3) / (A(I) * AIYY(I))) *
22     1 SIN ( 1.57E-2 * FQN(I))
23     COMP(I) = AO(I) * FQN(I)
24     STIF(I) = (48.0 * 30.0E6 * A(I) *AIYY(I)) / (XL(I) **3 )
25     GAM (I) = G (I) * A (I)
26     BAIYY(I) = AIYY(I) * A(I)
27     1 CONTINUE
28     DO 3 I = 1,44
29     3 CONTINUE
30     WRITE (6,5)
31     5 FORMAT (1H1)
32     WRITE (6,20)
33     20 FORMAT ( 41X, 3HIYY, 9X, 3HIXX, 9X, 3H XO, 9X, 3HNO., 9X, 3HFQN,
34     19X, 3H AO, 8X, 4HCOMP, 8X, 4HSTIF///)
35     I = 0
36     DO 40 N = 1, 2
37     I = I + 1
38     WRITE (6,21) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
39     1 CCMP(I), STIF(I)
40     21 FORMAT (28HCOUNTRYSIDE METHODIST CHURCH, 6X,
41     1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
42     21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
43     40 CONTINUE

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44      N = 1
45      I = I + 1
46      WRITE (6,22) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
47      1 CCMP(I), STIF(I)
48      22 FORMAT ( 24HEASTRIN CONSTRUCTION CO., 10X,
49      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
50      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
51      DO 41 N = 1, 2
52      I = I + 1
53      WRITE (6,23) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
54      1 CCMP(I), STIF(I)
55      23 FORMAT ( 24HFEDERAL AVIATION AGENCY, 10X,
56      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
57      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
58      41 CONTINUE
59      DO 42 N = 1, 6
60      I = I + 1
61      WRITE (6,24) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
62      1 CCMP(I), STIF(I)
63      24 FORMAT ( 24HKANSAS CITY MORTGAGE CO., 10X,
64      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
65      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
66      42 CONTINUE
67      DO 43 N = 1, 4
68      I = I + 1
69      WRITE (6,25) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
70      1 CCMP(I), STIF(I)
71      25 FORMAT ( 27HMEMORIAL EVANGELICAL CHURCH, 7X,
72      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
73      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
74      43 CONTINUE
75      DO 44 N = 1, 2
76      I = I + 1
77      WRITE (6,26) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
78      1 CCMP(I), STIF(I)
79      26 FORMAT ( 28HOLD MISSION METHODIST CHURCH, 6X,
80      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
81      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
82      44 CONTINUE
83      DO 45 N = 1, 4
84      I = I + 1
85      WRITE (6,27) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),
86      1 CCMP(I), STIF(I)
87      27 FORMAT ( 26HPACIFIC INDEMNITY INS. CO., 8X,
88      1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,
89      21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3 )
90      45 CONTINUE

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91	DO 46 N = 1, 4	80
92	I = I + 1	81
93	WRITE (6,28) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	82
94	1 CCMP(I), STIF(I)	
95	28 FORMAT (24HLIBERITY MUTUAL INS. CO., 10X,	85
96	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
97	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
98	46 CONTINUE	85
99	DO 47 N = 1, 5	87
100	I = I + 1	88
101	WRITE (6,29) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	89
102	1 CCMP(I), STIF(I)	
103	29 FORMAT (23HGRAYTOWN JR. HIGH SCHOOL, 11X,	92
104	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
105	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
106	47 CONTINUE	92
107	N = 1	94
108	I = I + 1	95
109	WRITE (6,31) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	96
110	1 CCMP(I), STIF(I)	
111	31 FORMAT (17HSAINT PAUL CHURCH, 17X,	99
112	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
113	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
114	DO 48 N = 1, 3	99
115	I = I + 1	100
116	WRITE (6,32) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	101
117	1 CCMP(I), STIF(I)	
118	32 FORMAT (22HSOUTHWEST BIBLE CHURCH, 12X,	104
119	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
120	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
121	48 CONTINUE	104
122	DO 49 N = 1, 3	106
123	I = I + 1	107
124	WRITE (6,33) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	108
125	1 CCMP(I), STIF(I)	
126	33 FORMAT (28 HFIRST ASSEMBLY OF GOD CHURCH, 6X,	111
127	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
128	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
129	49 CONTINUE	111
130	DO 51 N = 1, 4	113
131	I = I + 1	114
132	WRITE (6,34) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	115
133	1 CCMP(I), STIF(I)	
134	34 FORMAT (30HU. S. FIDELITY AND GARANTY CO., 4X,	118
135	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
136	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
137	51 CONTINUE	118

138	DO 52 N = 1, 3	120
139	I = I + 1	121
140	WRITE (6,35) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	122
141	1 CCMP(I), STIF(I)	
142	35 FORMAT (13H2200 BUILDING, 21X,	125
143	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
144	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
145	52 CONTINUE	125
146	CALL CLOCK (1)	127
147	STCP	128
148	END	129

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1	SUBROUTINE SUMN (A, XOA, JC, KC ,I)	
2	DIMENSION A(44) , XOA(44), JC(44), KC(44)	
3	A(I) = 1.0	
4	JVA = 1	2
5	LX = JC(I)	3
6	MX = KC(I)	4
7	DO 2 JX = LX, MX, LX	5
8	X = JX	6
9	IF (JVA .EQ. 1) SUM = 2.0 * (COS ((3.1417 * X) / (2.0*XOA(I))	7
10	1))	
11	IF (JVA .GT. 1) GO TO 2	10
12	IF (SUM .LT. 0.0)JVA = 12	13
13	IF (SUM .LT. 0.0) GO TO 2	16
14	A(I) = A(I) + SUM	19
15	2 CONTINUE	20
16	RETURN	22
17	END	23

1	DIMENSION AIYY(44), B(44), H(44), XL(44), WJ(44), JC(44), A(44),	
2	1 ARC(44), AIXX(44), G(44), E(44), YO(44), FQN(44), AO(44),	
3	2 CCMP(44), STIF(44), XOA(44), KC(44), BAIYY(44)	
4	3 , GAM(44)	
5	CALL CLOCK (0)	
6	READ (5,10) AIYY, B, H, XL, WJ	2
7	10 FORMAT (10F8,0)	5
8	READ (5,11) JC	5
9	11 FORMAT (10I8)	8
10	DO 1 I = 1, 44	8
11	AIXX(I) = B(I) * (H(I) **3) / 12.0	9
12	ARC(I) = B(I) * H(I)	10
13	G(I) = (WJ(I) + (ARC(I) * 0.633)) / 386.4	11
14	E(I) = (AIXX(I) / AIYY(I)) ** 0.25	12
15	XO(I) = 1.06065 * E(I) * XL(I)	13
16	XOA(I) = XO(I) * 10.0	14
17	KC(I) = JC(I) * 20	15
18	CALL SUMN (A, XOA, JC, KC, I)	16
19	FQN(I) = 1.57 * (((30.0E6 * AIYY(I)) / G(I)) **0.5) *	17
20	1 (1.0 / (XL(I) **2))	
21	AO(I) = <u>7.04E-7</u> * ((XL(I)**3) / (A(I) * AIYY(I))) *	18
22	1 SIN (1.57E-2 * FQN(I))	
23	COMP(I) = AO(I) * FQN(I)	19
24	STIF(I) = (48.0 * 30.0E6 * A(I) * AIYY(I)) / (XL(I) **3)	20
25	GAM (I) = G (I) * A (I)	21
26	BAIYY(I) = AIYY(I) * A(I)	22
27	1 CONTINUE	23
28	DO 3 I = 1,44	25
29	3 CONTINUE	26
30	WRITE (6,5)	28
31	5 FORMAT (1H1)	30
32	WRITE (6,20)	30
33	20 FORMAT (41X, 3HAIYY, 9X, 3HIXX; 9X, 3H XO, 9X, 3HNO., 9X, 3HFQN,	32
34	19X, 3H AO, 8X, 4HCOMP, 8X, 4HSTIF///)	
35	I = 0	32
36	DO 40 N = 1, 2	33
37	I = I + 1	34
38	WRITE (6,21) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	35
39	1 CCMP(I), STIF(I)	
40	21 FORMAT (28HCOUNTRYSIDE METHODIST CHURCH, 6X,	38
41	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
42	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
43	40 CONTINUE	38

44	N = 1	40
45	I = I + 1	41
46	WRITE (6,22) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	42
47	1 CCMP(I), STIF(I)	
48	22 FORMAT (24HEASTRIN CONSTRUCTION CO., 10X,	45
49	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
50	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
51	DO 41 N = 1, 2	45
52	I = I + 1	46
53	WRITE (6,23) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	47
54	1 CCMP(I), STIF(I)	
55	23 FORMAT (24HFEDERAL AVIATION AGENCY, 10X,	50
56	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
57	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
58	41 CONTINUE	50
59	DO 42 N = 1, 6	52
60	I = I + 1	53
61	WRITE (6,24) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	54
62	1 CCMP(I), STIF(I)	
63	24 FORMAT (24HKANSAS CITY MORTGAGE CO., 10X,	57
64	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
65	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
66	42 CONTINUE	57
67	DO 43 N = 1, 4	59
68	I = I + 1	60
69	WRITE (6,25) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	61
70	1 CCMP(I), STIF(I)	
71	25 FORMAT (27HMEMORIAL EVANGELICAL CHURCH, 7X,	64
72	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
73	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
74	43 CONTINUE	64
75	DO 44 N = 1, 2	66
76	I = I + 1	67
77	WRITE (6,26) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	68
78	1 CCMP(I), STIF(I)	
79	26 FORMAT (28HOLD MISSION METHODIST CHURCH, 6X,	71
80	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
81	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
82	44 CONTINUE	71
83	DO 45 N = 1, 4	73
84	I = I + 1	74
85	WRITE (6,27) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	75
86	1 CCMP(I), STIF(I)	
87	27 FORMAT (26HPACIFIC INDEMNITY INS. CO., 8X,	78
88	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
89	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
90	45 CONTINUE	78

91	DO 46 N = 1, 4	
92	I = I + 1	80
93	WRITE (6,28) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	81
94	1 COMP(I), STIF(I)	82
95	28 FORMAT (24HLIBERITY MUTUAL INS. CO., 10X,	85
96	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
97	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
98	46 CONTINUE	85
99	DO 47 N = 1, 5	87
100	I = I + 1	88
101	WRITE (6,29) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	89
102	1 COMP(I), STIF(I)	
103	29 FORMAT (23HGRAYTOWN JR. HIGH SCHOOL, 11X,	92
104	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
105	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
106	47 CONTINUE	92
107	N = 1	94
108	I = I + 1	95
109	WRITE (6,31) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	96
110	1 COMP(I), STIF(I)	
111	31 FORMAT (17HSAINT PAUL CHURCH, 17X,	99
112	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
113	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
114	DO 48 N = 1, 3	99
115	I = I + 1	100
116	WRITE (6,32) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	101
117	1 COMP(I), STIF(I)	
118	32 FORMAT (22HSOUTHWEST RIRLE CHURCH, 12X,	104
119	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
120	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
121	48 CONTINUE	104
122	DO 49 N = 1, 3	106
123	I = I + 1	107
124	WRITE (6,33) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	108
125	1 COMP(I), STIF(I)	
126	33 FORMAT (28 HFIRST ASSEMBLY OF GOD CHURCH, 6X,	111
127	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
128	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
129	49 CONTINUE	111
130	DO 51 N = 1, 4	113
131	I = I + 1	114
132	WRITE (6,34) N, AIYY(I), AIXX(I), YO(I), A(I), FON(I), AO(I),	115
133	1 COMP(I), STIF(I)	
134	34 FORMAT (30HU. S. FIDELITY AND GARANTY CO., 4X,	118
135	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
136	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
137	51 CONTINUE	118

138	DO 52 N = 1, 3	120
139	I = I + 1	121
140	WRITE (6,35) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	122
141	1 CCMP(I), STIF(I)	
142	35 FORMAT (13H2200 BUILDING, 21X,	125
143	1I5, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
144	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
145	52 CONTINUE	125
146	CALL CLOCK (1)	127
147	STOP	128
148	END	129

52	I = I + 1	46
53	WRITE (6,23) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	47
54	1 CCMF(I), STIF(I)	
55	23 FORMAT (24HFEDERAL AVIATION AGENCY, 10X,	50
56	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
57	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3)	
58	41 CONTINUE	50
59	DO 42 N = 1, 6	52
60	I = I + 1	53
61	WRITE (6,24) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	54
62	1 CCMF(I), STIF(I)	
63	24 FORMAT (24HKANSAS CITY MORTGAGE CO., 10X,	57
64	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
65	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3)	
66	42 CONTINUE	57
67	DO 43 N = 1, 4	59
68	I = I + 1	60
69	WRITE (6,25) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	61
70	1 CCMF(I), STIF(I)	
71	25 FORMAT (27HMEMORIAL EVANGELICAL CHURCH, 7X,	64
72	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
73	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
74	43 CONTINUE	64
75	DO 44 N = 1, 2	66
76	I = I + 1	67
77	WRITE (6,26) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	68
78	1 CCMF(I), STIF(I)	
79	26 FORMAT (28HOLD MISSION METHODIST CHURCH, 6X,	71
80	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
81	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
82	44 CONTINUE	71
83	DO 45 N = 1, 4	73
84	I = I + 1	74
85	WRITE (6,27) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	75
86	1 CCMF(I), STIF(I)	
87	27 FORMAT (26HPACIFIC INDEMNITY INS. CO., 8X,	78
88	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
89	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PF11.3)	
90	45 CONTINUE	78

91	DO 46 N = 1, 4	80
92	I = I + 1	81
93	WRITE (6,28) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	82
94	1 CCMF(I), STIF(I)	
95	28 FORMAT (244LIBERTY MUTUAL INS. CO., 10X,	85
96	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
97	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
98	46 CONTINUE	85
99	DO 47 N = 1, 5	87
100	I = I + 1	88
101	WRITE (6,29) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	89
102	1 CCMF(I), STIF(I)	
103	29 FORMAT (23HPRAYTOWN JR. HIGH SCHOOL, 11X,	92
104	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
105	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
106	47 CONTINUE	92
107	N = 1	94
108	I = I + 1	95
109	WRITE (6,31) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	96
110	1 CCMF(I), STIF(I)	
111	31 FORMAT (17HSAINT PAUL CHURCH, 17X,	99
112	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
113	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
114	DO 48 N =1, 3	99
115	I = I + 1	100
116	WRITE (6,32) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	101
117	1 CCMF(I), STIF(I)	
118	32 FORMAT (22HSOUTHWEST BIRLE CHURCH, 12X,	104
119	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
120	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
121	48 CONTINUE	104
122	DO 49 N =1, 3	106
123	I = I + 1	107
124	WRITE (6,33) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	108
125	1 CCMF(I), STIF(I)	
126	33 FORMAT (28 HFIRST ASSEMBLY OF GOD CHURCH, 6X,	111
127	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
128	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
129	49 CONTINUE	111
130	DO 51 N = 1, 4	113
131	I = I + 1	114
132	WRITE (6,34) N, AIYY(I), AIXX(I), XO(I), A(I), FON(I), AO(I),	115
133	1 CCMF(I), STIF(I)	
134	34 FORMAT (30HU. S. FIDELITY AND GARANTY CO., 4X,	118
135	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
136	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
137	51 CONTINUE	118

138	DO 52 N = 1, 3	120
139	I = I + 1	121
140	WRITE (6,35) N, AIYY(I), AIXX(I), XO(I), A(I), FQN(I), AO(I),	122
141	1 CCMF(I), STIF(I)	
142	35 FORMAT (13H2200 BUILDING, 21X,	125
143	1I3, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3,	
144	21X, 1PE11.3, 1X, 1PE11.3, 1X, 1PE11.3)	
145	52 CONTINUE	125
146	CALL CLOCK (1)	127
147	STCP	128
148	END	129

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1	SUER CUTINE SUMN (A, XOA, JC, KC ,I)	
2	DIMENSION A(44) , XOA(44), JC(44), KC(44)	
3	A(I) = 1.0	
4	JVA = 1	2
5	LX = JC(I)	3
6	MX = KC(I)	4
7	DO 2 JX = LX, MX, LX	5
8	X = JX	6
9	IF (JVA .EQ. 1) SUM = 2.0 * (COS ((3.1417 * X) / (2.0*XOA(I)))	7
10	1))	
11	IF (JVA .GT. 1) GO TO 2	10
12	IF (SUM .LT. 0.0) JVA = 12	13
13	IF (SUM .LT. 0.0) GO TO 2	16
14	A(I) = A(I) + SUM	19
15	2 CONTINUE	20
16	RETURN	22
17	END	23

		IYY	IXX	XO	NO.	FON	AO	COMP	STIF
COUNTRYSIDE METHODIST CHURCH	1	1.500E 02	3.125E 00	7.898E 01	4.209E 00	2.282F 01	9.785E-03	2.233E-01	1.207E 05
COUNTRYSIDE METHODIST CHURCH	2	2.000F 01	2.318E 00	6.745E 01	4.825E 00	3.187E 01	8.759E-02	2.791E 00	1.845E 04
EASTRIN CONSTRUCTION CC.	1	8.284E 02	5.512E 00	1.496E 02	7.759E 00	7.183E 00	3.085E-04	2.216E-03	1.229E 06
FEDERIAL AVIATION AGENCY	1	2.908E 02	9.527E 00	1.421E 02	7.516E 00	1.022E 01	1.268E-03	1.317E-02	4.179E 05
FEDERIAL AVIATION AGENCY	2	2.908E 02	9.527E 00	1.399E 02	7.415E 00	1.055F 01	1.348E-03	1.423E-02	4.123E 05
KANSAS CITY MORTGAGE CC.	1	1.594E 02	5.175E 00	1.279E 02	7.101E 00	1.052E 01	2.559E-03	2.692E-02	2.165E 05
KANSAS CITY MORTGAGE CC.	2	8.623E 01	4.950E 00	9.968E 01	5.797E 00	1.750F 01	9.564E-03	1.674E-01	9.561E 04
KANSAS CITY MORTGAGE CC.	3	8.623E 01	4.950E 00	1.033E 02	5.994E 00	1.629E 01	8.625E-03	1.405E-01	9.885E 04
KANSAS CITY MORTGAGE CC.	4	1.859E 02	4.500E 00	1.184E 02	7.513E 00	1.206E 01	2.374E-03	2.861E-02	2.671E 05
KANSAS CITY MORTGAGE CC.	5	1.798E 02	4.500E 00	8.100E 01	5.110E 00	2.627E 01	7.687E-03	2.019E-01	1.757E 05
KANSAS CITY MORTGAGE CC.	6	1.798E 02	4.500E 00	1.316E 02	8.398E 00	9.948E 00	1.815E-03	1.806E-02	2.887E 05
MEMORIAL EVANGELICAL CHURCH	1	1.216E 02	5.175E 00	8.285E 01	4.618E 00	2.505E 01	1.202E-02	3.011E-01	1.074E 05
MEMORIAL EVANGELICAL CHURCH	2	2.355E 01	4.950E 00	6.392E 01	3.655E 00	4.308F 01	1.261E-01	5.521E 00	1.646E 04
MEMORIAL EVANGELICAL CHURCH	3	1.209F 02	4.950E 00	1.374E 02	7.958E 00	9.087F 00	2.605E-03	2.367E-02	1.839E 05
MEMORIAL EVANGELICAL CHURCH	4	8.295E 02	7.875E 00	1.463E 02	5.316E 00	8.053E 00	5.038E-04	4.057E-03	8.434E 05
OLD MISSION METHODIST CHURCH	1	7.718E 01	2.214E 00	1.117E 02	8.387E 00	1.139F 01	4.840E-03	5.511E-02	1.238E 05
OLD MISSION METHODIST CHURCH	2	7.718E 01	2.214E 00	1.117E 02	8.387E 00	1.139F 01	4.840E-03	5.511E-02	1.238E 05
PACIFIC INDEMNITY INS. CO.	1	3.029F 02	2.943E 00	8.791E 01	4.925E 00	1.794E 01	3.283E-03	5.889F-02	2.853E 05
PACIFIC INDEMNITY INS. CO.	2	3.029F 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	3.495E-03	6.565E-02	2.802E 05
PACIFIC INDEMNITY INS. CO.	3	3.029E 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	3.495E-03	6.565E-02	2.802E 05
PACIFIC INDEMNITY INS. CO.	4	3.029E 02	2.943E 00	8.591E 01	4.837E 00	1.878E 01	3.495E-03	6.565E-02	2.802E 05
LIBERTY MUTUAL INS. CC.	1	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.377E-03	2.552E-02	2.379E 05
LIBERTY MUTUAL INS. CC.	2	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.377E-03	2.552E-02	2.379E 05
LIBERTY MUTUAL INS. CC.	3	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.377E-03	2.552E-02	2.379E 05
LIBERTY MUTUAL INS. CC.	4	1.857E 02	5.400E 00	1.261E 02	6.699E 00	1.074E 01	2.377E-03	2.552E-02	2.379E 05
RAYTOWN JR. HIGH SCHCOL	1	1.854E 02	5.287E 00	1.360E 02	7.368E 00	9.229E 00	1.862E-03	1.719E-02	2.612E 05
RAYTOWN JR. HIGH SCHCOL	2	5.304E 01	5.287E 00	8.403E 01	4.587E 00	2.486F 01	2.756E-02	6.851E-01	4.653E 04
RAYTOWN JR. HIGH SCHCOL	3	1.854E 02	5.287E 00	1.390E 02	7.509E 00	8.829E 00	1.749F-03	1.544E-02	2.662E 05
RAYTOWN JR. HIGH SCHCOL	4	1.854E 02	5.287E 00	1.360E 02	7.368E 00	9.229E 00	1.862E-03	1.719E-02	2.612E 05
RAYTOWN JR. HIGH SCHCOL	5	1.811E 02	4.500E 00	1.263E 02	8.055E 00	1.060F 01	2.000E-03	2.120E-02	2.790E 05
SAINT PAUL CHURCH	1	1.811E 02	4.500E 00	1.263E 02	8.055E 00	1.060E 01	2.000E-03	2.120E-02	2.790E 05
SOUTHWEST BIBLE CHURCH	1	1.132E 02	8.575E 00	1.291E 02	6.869E 00	1.222E 01	4.321E-03	5.279E-02	1.487E 05
SOUTHWEST BIBLE CHURCH	2	4.292E 02	8.575E 00	8.374E 01	4.480E 00	2.639E 01	3.949E-03	1.121E-01	3.678E 05
SOUTHWEST BIBLE CHURCH	3	4.292E 02	8.575E 00	1.882E 02	9.978E 00	5.619E 00	3.624E-04	2.036E-03	8.191E 05
FIRST ASSEMBLY OF GOD CHURCH	1	8.258E 02	5.400E 00	1.348E 02	7.172E 00	8.832F 00	4.112E-04	3.631E-03	1.133E 06
FIRST ASSEMBLY OF GOD CHURCH	2	8.297E 02	5.017E 00	1.372E 02	7.826E 00	8.456E 00	3.592F-04	3.037E-03	1.242E 06
FIRST ASSEMBLY OF GOD CHURCH	3	2.712E 02	5.512E 00	1.205E 02	6.234E 00	1.165E 01	1.896E-03	2.209E-02	3.234E 05
J. S. FIDELITY AND GARANTY CO.	1	3.933E 02	5.400E 00	1.256E 02	6.668E 00	1.034E 01	1.086E-03	1.124E-02	5.016E 05
J. S. FIDELITY AND GARANTY CO.	2	3.933E 02	5.400E 00	1.256E 02	6.668E 00	1.034E 01	1.086E-03	1.124E-02	5.016E 05
J. S. FIDELITY AND GARANTY CO.	3	3.452E 02	5.400E 00	1.298E 02	6.907E 00	9.798E 00	1.132E-03	1.110E-02	4.559E 05
J. S. FIDELITY AND GARANTY CO.	4	3.452E 02	5.400E 00	1.298E 02	6.907E 00	9.798E 00	1.132E-03	1.110E-02	4.559E 05
2200 BUILDING	1	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	6.550E-03	1.026E-01	1.252E 05
2200 BUILDING	2	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	6.550E-03	1.026E-01	1.252E 05
2200 BUILDING	3	1.312E 02	3.125E 00	9.500E 01	4.989E 00	1.566E 01	6.550E-03	1.026E-01	1.252E 05


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1      C      TBEAM FREQ AND DEFLECTION, IMPACT AND DEFLECTION AT X=L/2
2          DIMENSION OM(7),VS(7),AMP(7),FV1(40),FV2(50),FVM(50),FREQ(7),
3          1BEAM(9)
4          READ (5,5) HI1,(FV1(I),I=1,40)
5          5 FORMAT (F8.0/(5F8.0))
6          READ (5,5) HI2,(FV2(I),I=1,50)
7          READ (5,5) HIM,(FVM(I),I=1,50)
8          CALL CLOCK (0)
9          11 READ (5,12) (BEAM(K), K=1, 9), AL, AI, GAM,LC
10         12 FORMAT ( 9A3, 3F10.0,12)
11         WRITE (6, 161)
12         161 FORMAT (36X, 1HL, 9X, 1HI, 9X, 1HM, 8X, 2HFN, 7X, 3HAOH, 7X,
13             1 3HAOM//)
14         F=29.0E06
15         DO 20 J=1,7,2
16             AJ=J
17             OM(J)=(3.1416*AJ/AL)**2*SQRT(E*AI/GAM)
18             FREQ(J)=OM(J)/(2.0*3.1416)
19         20 CONTINUE
20         BFO=FREQ(1)
21         AOH=0.0
22         AOM=0.0
23
24         C
25         C      INTEGRATING OVER ACTUAL HUMAN IMPACT
26         KTIN=1
27         IF (BFO.LE.7.0) KT1=45
28         IF (BFO.LE.7.0) KT2=70
29         IF (BFO.GT.7.0.AND.BFO.LE.15.0) KT1=20
30         IF (BFO.GT.7.0.AND.BFO.LE.15.0) KT2=60
31         IF (BFO.GT.15.0) KT1=8
32         IF (BFO.GT.15.0) KT2=35
33         DO 50 KI=KT1,KT2,KTIN
34             RKB=KI
35             R=RKB/1000.0
36         26 DO 28 M=1,7,2
37             SUM4=0.0
38             SUM2=0.0
39             ILS=KI+KI-3
40             X=HI1
41             DO 27 J=1,ILS,2
42                 SUM4=SUM4+FV1(J)*SIN(OM(M)*(R-X))
43                 SUM2=SUM2+FV1(J+1)*SIN(OM(M)*(R-(X+HI1)))
44             Y=X+HI1+HI1
45         27 CONTINUE

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46		VS(M)=(HI1/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FV1(ILS+2)*SIN(OM(M)*	72
47		1(B-X))+FV1(ILS+3)*SIN(OM(M)*(B-(X+HI1))))	
48	28	CONTINUE	73
49		GO TO 36	75
50	30	DO 34 M=1,7,2	76
51		SUM4=0.0	77
52		SUM2=0.0	78
53		IF (KI.LT.50) ILS=KI-3	79
54		IF (KI.GE.50) ILS=47	82
55		X=HI2	85
56		DO 32 J=1,ILS,2	86
57		SUM4=SUM4+FV2(J)*SIN(OM(M)*(B-X))	87
58		SUM2=SUM2+FV2(J+1)*SIN(OM(M)*(B-(X+HI2)))	88
59		X=X+HI2+HI2	89
60	32	CONTINUE	90
61		IF (KI.GE.50) VS(M)=(HI2/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FV2(ILS+2)*	92
62		1SIN(OM(M)*(B-X)))	
63		IF (KI.GE.50) GO TO 35	95
64		IF (2*(ILS/2)-ILS) 33,34,33	98
65	33	VS(M)=(HI2/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FV2(ILS+2)*SIN(OM(M)*	99
66		1(B-X))+FV2(ILS+3)*SIN(OM(M)*(B-(X+HI2))))	
67		GO TO 35	100
68	34	VS(M)=(HI2/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FV2(ILS+1)*SIN(OM(M)*	101
69		1(B-X))+2.0*FV2(ILS+2)*SIN(OM(M)*(B-(X+HI2)))+FV2(ILS+3)*SIN(OM(M)*	
70		2(B-(X+HI2+HI2))))	
71	35	CONTINUE	103
72	36	DO 38 J=1,7,2	104
73	38	AMP(J)=(2.0/(AL*GAM*OM(J)))*VS(J)	105
74		TAMP=0.0	107
75		DO 44 J=1,7,2	108
76	44	TAMP=TAMP+AMP(J)	109
77		IF (TAMP.GT.AOH) TMH=B	111
78		IF (TAMP.GT.AOH) AOH=TAMP	114
79	50	CONTINUE	117

80	WRITE (6,49) KT1,KT2,TMH	119
81	49 FORMAT (1H0,9X,5HHUMAN,3X,4HKT1=,I3,5H KT2=,I3,5H TMH=,F8.6//)	122
82	C	
83	C INTEGRATING OVER ACTUAL MECHANICAL IMPACT	
84	IF (BFQ.LE.7.0) KT1=35	122
85	IF (BFQ.LE.7.0) KT2=60	125
86	IF (BFQ.GT.7.0.AND.BFQ.LE.20.0) KT1=15	128
87	IF (BFQ.GT.7.0.AND.BFQ.LE.20.0) KT2=40	131
88	IF (BFQ.GT.20.0) KT1=4	134
89	IF (BFQ.GT.20.0) KT2=20	137
90	DO 75 KI=KT1,KT2,KTIN	140
91	RKB=KI	141
92	R=RKB/1000.0	142
93	DO 55 M=1,7,2	143
94	SUM4=0.0	144
95	SUM2=0.0	145
96	IF (KI.LT.10) ILS=5*KI-3	146
97	IF (KI.GE.10) ILS=47	149
98	X=HIM	152
99	DO 51 J=1,ILS,2	153
100	SUM4=SUM4+FVM(J)*SIN(OM(M)*(R-X))	154
101	SUM2=SUM2+FVM(J+1)*SIN(OM(M)*(B-(X+HIM)))	155
102	X=X+HIM+HIM	156
103	51 CONTINUE	157
104	IF (KI.GE.10) VS(M)=(HIM/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FVM(49)*	159
105	1SIN(OM(M)*(B-X)))	
106	IF (KI.GE.10) GO TO 55	162
107	IF (2*(ILS/2)-ILS) 52,53,52	165
108	52 VS(M)=(HIM/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FVM(ILS+2)*SIN(OM(M)*	166
109	1(B-X))+FVM(ILS+3)*SIN(OM(M)*(B-(X+HIM))))	
110	GO TO 55	167
111	53 VS(M)=(HIM/3.0)*((4.0*SUM4+2.0*SUM2)+4.0*FVM(ILS+1)*SIN(OM(M)*	168
112	1(B-X))+2.0*FVM(ILS+2)*SIN(OM(M)*(B-(X+HIM)))+FVM(ILS+3)*SIN(OM(M)*	
113	2(B-(X+HIM+HIM))))	
114	55 CONTINUE	169
115	DO 57 J=1,7,2	171
116	57 AMP(J)=(2.0/(AL*GAM*OM(J)))*VS(J)	172
117	TAMP=0.0	174
118	DO 64 J=1,7,2	175
119	64 TAMP=TAMP+AMP(J)	176
120	IF (TAMP.GT.AOM) TMM=B	178
121	IF (TAMP.GT.AOM) AOM=TAMP	181
122	75 CONTINUE	184
123	WRITE (6,76) KT1,KT2,TMM	186
124	76 FORMAT (1H0,9X,5H MECH,3X,4HKT1=,I3,5H KT2=,I3,5H TMM=,F8.6//)	189
125	WRITE (6,160) (BEAM(K), K=1, 9), AL, AI, GAM, BFQ, AOH, AOM	189
126	160 FORMAT (9A3, 2F10.2, F10.5, F10.2, 2F10.6//)	195
127	140 IF (LC) 145,11,145	195
128	145 CALL CLOCK (1)	196
129	STOP	197
130	END	198

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