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Shell-Model Wave Functions for the Zinc Isotopes*

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In this report we present details of the ASDI wave functions used in the shell-model calculation for the Zinc isotopes with A = 60 - 68 as published in Nucl. Phys. A269(1976)159. The wave functions calculated in a full $0f_{5/2}$ - $1p_{1/2}$ - $1p_{3/2}$ model space are shown for the lowest four states of each A, J, T system only, and with T values equal to the lowest isospin value allowed in each Zn nucleus.

The conventions of the presentation are as follows: A particular model state is labeled by its mass number (A), twice its total angular momentum ($2J^{\pi}$), twice its total isospin (2T), its calculated binding energy (E) and an ordinal number, denoting whether it is the 1st, 2nd, 3rd, etc., lowest state for the particular A, J, T combination in question. Also noted on this initial identifying line are the number of core particles in the model (56 in all present cases) and the dimensionality (number of basis states) for that A, J, T.

Following this first line of information, all components of the wave function of this state whose amplitudes have an absolute value greater than 0.0316 are listed and identified. Under each "amplitude" value is a triplet of columns, one for each of the three fp-shell orbits ($0f_{5/2}$ = F5, $1p_{1/2}$ = P1, and $1p_{3/2}$ = P3). The information in these columns serves to completely specify the basis vector associated with the particular amplitude in question as follows. The "configuration" triplet gives the occupation number for each of the orbits. The 2* (S-S J's) triplet gives the angular momenta to which the particles in the single orbits (shells) are separately coupled. The 2* (coupled J) doublet then gives the angular momentum J_{12} which results from coupling the angular momentum of shell 1 ($0f_{5/2}$) to that of shell 2 ($1p_{1/2}$) and then gives the total angular momentum J which results from coupling J_{12} to the angular momentum of shell 3 ($1p_{3/2}$). The 2* (S-S T's) triplet and the 2* (coupled T) doublet give analogous information about the isospin couplings. The S-S seniorities triplet list the seniorities of the particle couplings within each orbit.

The concluding information given about the state comes on the last three lines after all components have been listed. The average occupation number for each orbit as calculated from the complete wave function is noted on the first of these lines. The percentage of the total wave function structure that is identified in the preceding listing is noted on the second line, and on the last line we have listed the representation of the preceding wave function in terms of states with a definitive J, T and total seniority.

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A= 60, 2*J= 0+, 2*T= 0, E= -50.392, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 21

AMPLITUDE	.507			-.473			-.335			.249			-.228			.221			-.212			-.184			-.174			-.165			-.144			.139		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F3	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		0	4		2	2		0	2		4	0		2	2	0		1	2	1		0	1	3		1	1	2		2	0	2		2	0	2		3	0	1		2	1	1
2*(S-S J'S)		0	0	0		0	0		0	0		0	0		0	0		5	2	3		0	1	1		5	1	4		4	0	4		2	0	2		3	0	3		4	1	3
2*(CPLED J)			0	0		0	0		0	0		0	0		0	0		3	0			1	0			4	0			4	0			2	0			3	0			3	0
2*(S-S T'S)		0	0	0	2	0	2	0	2	2	0	0	0	2	2	0	1	0	1	0	1	1	1	1	2	2	0	2	0	0	0	1	0	1	2	1	1
2*(CPLED T)			0	0		2	0		2	0		0	0		0	0		1	0			1	0			2	0			2	0			0	0			1	0			1	0
S-S SENIOR.		0	0	0		0	0		0	0		0	0		0	0		1	2	1		0	1	3		1	1	2		2	0	2		2	0	2		3	0	1		2	1	1
B.STATE #			1			10			3			20			16			9			2			7			12			11			18			15	

AMPLITUDE	-.131			.116			.107			.097			-.096			-.062			.046		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		0	2	2		0	4	0		2	2	0		3	1	0		1	0	3		2	1	1		4	0	0
2*(S-S J'S)		0	2	2		0	0	0		2	2	0		1	1	0		5	0	5		2	1	3		0	0	0
2*(CPLED J)			2	0			0	0			0	0			0	0			5	0			3	0			0	0
2*(S-S T'S)		0	0	0		0	0	0		0	0	0		1	1	0		1	0	1		0	1	1		0	0	0
2*(CPLED T)			0	0			0	0			0	0			0	0			1	0			1	0			0	0
S-S SENIOR.		0	2	2		0	0	0		2	2	0		3	1	0		1	0	3		2	1	1		4	0	0
B.STATE #			4				5			17			19			6			14			21					

THE OCCUPATION NUMBERS ARE: <F5>= 1.18, <P1>= .55, <P3>= 2.17
LISTED COMPONENTS ACCOUNT FOR 99.9 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 72.1 (SSS= 4) = 27.9

A= 60, 2*J= 0+, 2*T= 0, E= -47.080, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 21

AMPLITUDE	.702			-.305			.225			.217			.210			-.198			-.197			-.192			-.178			.143			.143			.134		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		0	4		1	2	1		3	0	1		2	2	0		1	0	3		4	0	0		2	1	1		2	2	0		3	1	0		1	1	2		2	0	2		2	0	2
2*(S-S J'S)		0	0	0		5	2	3		3	0	3		0	0	0		5	0	5		0	0	0		4	1	3		2	2	0		1	1	0		5	1	4		4	0	4		6	0	6
2*(CPLED J)			0	0			3	0			3	0			0	0			5	0			0	0			3	0			0	0			0	0			4	0			6	0
2*(S-S T'S)		0	0	0		1	0	1		1	0	1		2	2	0		1	0	1		0	0	0		2	1	1		0	0	0		1	1	0		1	1	2		2	0	2		0	0	0
2*(CPLED T)			0	0			1	0			1	0			0	0			1	0			0	0			1	0			0	0			0	0			2	0			2	0			0	0
S-S SENIOR.		0	0	0		1	2	1		3	0	1		0	0	0		1	0	3		0	0	0		2	1	1		2	2	0		3	1	0		1	1	2		2	0	2		2	0	2
B.STATE #			1			9			18			16			6			20			15			17			19			7			12			13	

AMPLITUDE	.115			-.107			.105			.093			-.092			-.085			.067			.042		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		0	2	2		0	4	0		2	0	2		2	1	1		2	0	2		4	0	0		1	1	2		0	1	3
2*(S-S J'S)		0	2	2		0	0	0		2	0	2		2	1	3		0	0	0		0	0	0		5	1	6		0	1	1
2*(CPLED J)			2	0			0	0			2	0			3	0			0	0			0	0			6	0			1	0
2*(S-S T'S)		0	0	0		0	0	0		0	0	0		0	1	1		2	0	2		0	0	0		1	1	0		0	1	1
2*(CPLED T)			0	0			0	0			0	0			1	0			2	0			0	0			0	0			1	0
S-S SENIOR.		0	2	2		0	0	0		2	0	2		2	1	1		0	0	0		4	0	0		1	1	2		0	1	3
B.STATE #			4				5			11			14			10			21			8							2				

THE OCCUPATION NUMBERS ARE: <F5>= .98, <P1>= .53, <P3>= 2.49
LISTED COMPONENTS ACCOUNT FOR 100.0 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 59.9 (SSS= 4) = 40.1

A= 61, 2*J= 1=, 2*T= 1, E= =60.764, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 109

AMPLITUDE	.390			.373			.331			-.279			-.234			.196			.194			-.188			.172			.172			.165			.146		
S=S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	0	1	4	1	1	3	1	0	4	2	1	2	3	1	1	0	3	2	2	0	3	1	1	3	1	3	1	3	0	2	2	1	2	1	2	2
2*(S=S J'S)	0	1	0	5	1	3	5	0	4	0	1	0	5	1	3	0	1	0	4	0	3	5	1	3	5	1	3	5	0	4	2	1	0	5	0	4
2*(CPLED J)		1	1		4	1		5	1		1	1		4	1		1	1		4	1		4	1		4	1		5	1		1	1		5	1
2*(S=S T'S)	0	1	0	1	1	1	1	0	0	2	1	2	1	1	1	0	1	2	2	0	1	1	1	1	1	1	1	1	0	2	0	1	2	1	2	2
2*(CPLED T)		1	1		2	1		1	1		1	1		0	1		1	1		2	1		0	1		0	1		1	1		1	1		1	1
S=S SENIOR.	0	1	0	1	1	1	1	0	2	0	1	0	1	1	1	0	1	0	2	0	1	1	1	1	1	1	1	1	0	2	2	1	0	1	0	2
B.STATE #		2			14			9			41			89			7			35			13			30			74			44			22	

AMPLITUDE	-.131			.119			.118			.116			.113			.113			.107			-.097			.083			.083			-.083			.083		
S=S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	0	1	1	2	2	0	2	3	2	0	3	2	2	1	3	0	2	0	2	3	2	2	1	1	0	4	2	1	2	1	3	1	2	1	2
2*(S=S J'S)	4	0	3	5	2	2	0	0	1	0	0	1	4	0	3	1	0	0	0	2	1	6	2	3	5	0	4	4	1	2	5	1	3	8	1	5
2*(CPLED J)		4	1		3	1		0	1		0	1		4	1		1	1		2	1		4	1		5	1		3	1		4	1		7	1
2*(S=S T'S)	0	0	1	1	0	0	0	2	1	2	0	1	2	2	1	1	0	2	0	0	1	0	0	1	1	0	0	2	1	0	1	1	1	2	1	0
2*(CPLED T)		0	1		1	1		2	1		2	1		0	1		1	1		0	1		0	1		1	1		1	1		2	1		1	1
S=S SENIOR.	2	0	1	1	2	2	0	0	3	0	0	3	2	0	1	3	0	0	0	2	3	2	2	1	1	0	4	2	1	2	1	1	1	2	1	2
B.STATE #		99			25			4			32			62			69			5			66			10			48			31			57	

THE OCCUPATION NUMBERS ARE: <F5>= 1.33, <P1>= 1.01, <P3>= 2.65
LISTED COMPONENTS ACCOUNT FOR 88.4 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 26.9 (SSS= 3) = 59.1 (SSS= 5) = 13.9

A= 61, 2*J= 1=, 2*T= 1, E= =59.521, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 109

AMPLITUDE	.495			-.467			-.317			.204			.185			.159			-.153			.151			.143			-.142			-.131			-.121		
S=S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	2	0	1	4	4	1	0	2	1	2	2	3	0	2	1	2	0	3	2	2	1	2	2	0	3	3	1	1	3	1	1	1	3	1
2*(S=S J'S)	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	2	1	2	0	1	0	4	1	4	0	0	1	3	1	3	5	1	3	5	1	3
2*(CPLED J)		1	1		1	1		1	1		1	1		1	1		3	1		1	1		5	1		0	1		4	1		4	1		4	1
2*(S=S T'S)	2	1	2	0	1	0	0	1	0	2	1	2	2	1	0	0	1	0	0	1	2	2	1	2	2	0	1	1	1	1	1	1	1	1	1	1
2*(CPLED T)		3	1		1	1		1	1		1	1		1	1		1	1		1	1		3	1		2	1		2	1		0	1		2	1
S=S SENIOR.	0	1	0	0	1	0	0	1	0	0	1	0	0	1	0	2	1	2	0	1	0	2	1	2	0	0	3	3	1	1	1	1	1	1	1	1
B.STATE #		42			2			104			41			67			46			7			52			32			86			89			31	

AMPLITUDE	.118			.118			.112			-.108			-.104			-.092			.091			.090			.088			-.088			.083			.080		
S=S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	0	0	5	1	1	3	2	1	2	1	2	2	3	1	1	1	1	3	2	1	2	2	1	2	2	0	3	4	0	1	3	0	2	1	0	4
2*(S=S J'S)	0	0	1	5	1	3	4	1	4	5	0	4	3	1	3	5	1	5	0	1	2	2	1	2	2	0	1	4	0	3	5	0	4	5	0	4
2*(CPLED J)		0	1		4	1		3	1		5	1		2	1		6	1		1	1		1	1		2	1		4	1		5	1		5	1
2*(S=S T'S)	0	0	1	1	1	1	2	1	2	1	2	2	1	1	1	1	1	1	2	1	0	0	1	0	0	0	1	1	0	2	1	0	0			
2*(CPLED T)		0	1		2	1		3	1		3	1		2	1		2	1		1	1		1	1		0	1		0	1		1	1		1	1
S=S SENIOR.	0	0	3	1	1	1	2	1	2	1	0	2	3	1	1	1	1	3	0	1	2	2	1	2	2	0	3	2	0	1	1	0	2	1	0	2
B.STATE #		1			14			50			23			84			19			43			45			33			99			74			9	

THE OCCUPATION NUMBERS ARE: <F5>= 1.70, <P1>= 1.12, <P3>= 2.18
LISTED COMPONENTS ACCOUNT FOR 90.0 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 66.3 (SSS= 3) = 16.1 (SSS= 5) = 17.6

A= 62, 2*J= 0+, 2*T= 2, E= -73.257, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 148

AMPLITUDE	.493			.289			.269			-.262			-.231			.229			-.200			-.171			-.159			-.137			.137			.131		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	0	4	4	0	2	0	2	4	2	2	2	2	2	2	0	0	6	4	0	2	1	2	3	2	0	4	2	1	3	2	0	4	1	1	4
2*(S-S J'S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	3	0	0	0	0	1	1	4	0	4	5	1	4
2*(CPLED J)		0	0		0	0		0	0		0	0		0	0		0	0		0	0		3	0		0	0		1	0		4	0		4	0
2*(S-S T'S)	2	0	0	0	0	2	0	2	0	2	2	2	2	2	2	0	0	2	4	0	2	1	0	1	2	0	4	2	1	1	2	0	0	1	1	0
2*(CPLED T)		2	2		0	2		2	2		0	2		4	2		0	2		4	2		1	2		2	2		3	2		2	2		2	2
S-S SENIOR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	1	0	0	0	0	1	3	2	0	2	1	1	2
B.STATE #		24			108			3			47			49			1			110			17			25			33			27			9	

AMPLITUDE	-.126			.120			.120			.119			-.115			.108			.108			.102			-.101			-.099			.094			-.094		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	3	0	4	2	6	0	0	4	2	0	0	2	4	2	1	3	3	0	3	3	1	2	2	2	2	4	2	0	2	2	2	1	1	4
2*(S-S J'S)	4	1	3	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	3	0	3	1	1	0	0	2	2	0	0	0	2	2	0	5	1	4
2*(CPLED J)		3	0		0	0		0	0		0	0		0	0		1	0		3	0		0	0		2	0		0	0		0	0		4	0
2*(S-S T'S)	2	1	1	0	0	2	2	0	0	0	2	0	0	2	4	2	1	1	1	0	1	1	1	2	2	0	0	4	2	0	0	0	2	1	1	2
2*(CPLED T)		1	2		0	2		2	2		2	2		2	2		1	2		1	2		0	2		2	2		2	2		0	2		2	2
S-S SENIOR.	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	1	3	3	0	1	3	1	0	0	2	2	0	0	0	2	2	0	1	1	2
B.STATE #		37			7			147			134			4			32			68			77			50			136			52			12	

THE OCCUPATION NUMBERS ARE: <F5>= 2.09, <P1>= .87, <P3>= 3.04
LISTED COMPONENTS ACCOUNT FOR 86.6 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 71.8 (SSS= 4) = 25.9 (SSS= 6) = 2.2

A= 62, 2*J= 0+, 2*T= 2, E= -71.049, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 148

AMPLITUDE	.442			-.337			-.283			-.249			-.231			-.184			.166			-.165			.154			-.143			-.141			-.140		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	0	0	6	1	1	4	2	0	4	3	1	2	1	1	4	0	2	4	1	3	2	2	0	4	1	2	3	2	1	3	0	1	5	2	1	3
2*(S-S J'S)	0	0	0	5	1	4	0	0	0	5	1	4	5	1	4	0	0	0	5	1	4	4	0	4	5	2	3	4	1	3	0	1	1	0	1	1
2*(CPLED J)		0	0		4	0		0	0		4	0		4	0		0	0		4	0		4	0		3	0		3	0		1	0		1	0
2*(S-S T'S)	0	0	2	1	1	0	2	0	4	1	1	2	1	1	2	0	2	4	1	1	2	2	0	0	1	0	1	2	1	1	0	1	1	2	1	1
2*(CPLED T)		0	2		2	2		2	2		0	2		2	2		2	2		0	2		2	2		1	2		3	2		1	2		1	2
S-S SENIOR.	0	0	0	1	1	2	0	0	0	1	1	2	1	1	2	0	0	0	1	1	2	2	0	2	1	2	1	2	1	1	0	1	3	0	1	3
B.STATE #		1			9			25			86			12			4			21			27			17			38			2			32	

AMPLITUDE	.132			-.124			-.121			-.112			-.107			-.099			.097			.096			-.095			-.092			-.088			.084		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	3	1	1	4	1	3	2	4	0	2	2	2	2	2	0	4	2	1	3	2	1	3	2	0	4	2	3	1	1	2	3	3	1	2
2*(S-S J'S)	4	1	3	5	1	4	5	1	4	4	0	4	0	0	0	2	0	2	4	1	3	8	1	7	4	0	4	4	1	3	5	0	5	5	1	4
2*(CPLED J)		3	0		4	0		4	0		4	0		0	0		2	0		3	0		7	0		4	0		3	0		5	0		4	0
2*(S-S T'S)	2	1	1	1	1	0	1	1	2	0	0	2	2	2	2	0	0	2	2	1	3	2	1	1	2	0	2	2	1	1	1	2	1	1	1	2
2*(CPLED T)		1	2		2	2		2	2		0	2		2	2		0	2		1	2		1	2		2	2		1	2		3	2		0	2
S-S SENIOR.	2	1	1	1	1	4	1	1	2	2	0	2	0	0	0	2	0	2	2	1	1	2	1	3	2	0	2	2	1	1	1	0	3	3	1	2
B.STATE #		37			10			22			113			48			26			39			45			29			64			16			92	

THE OCCUPATION NUMBERS ARE: <F5>= 1.42, <P1>= .86, <P3>= 3.72
LISTED COMPONENTS ACCOUNT FOR 80.9 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 34.0 (SSS= 4) = 56.3 (SSS= 6) = 9.7

A= 63, 2*J= 1⁻, 2*T= 3, E= -82.154, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 425

AMPLITUDE	.407			.359			.210			-.207			.204			.200			-.155			-.155			.152			.150			.144			-.135		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	4	0	1	6	3	0	4	2	1	4	3	1	3	4	1	2	1	1	5	1	0	6	1	1	5	0	3	4	2	3	2	4	1	2
2*(S-S J'S)	0	1	0	0	1	0	5	0	4	0	1	0	5	1	5	0	1	0	5	1	3	5	0	4	5	1	3	0	1	0	0	1	0	0	1	0
2*(CPLED J)		1	1		1	1		5	1		1	1		6	1		1	1		4	1		5	1		4	1		1	1		1	1		1	1
2*(S-S T'S)	2	1	0	0	1	2	3	0	2	2	1	4	3	1	1	0	1	2	1	1	1	1	0	2	1	1	3	0	1	4	2	1	2	4	1	2
2*(CPLED T)		3	3		1	3		3	3		1	3		4	3		1	3		2	3		1	3		2	3		1	3		3	3		3	3
S-S SENIOR.	0	1	0	0	1	0	1	0	2	0	1	0	1	1	3	0	1	0	1	1	1	1	0	2	1	1	1	0	1	0	0	1	0	0	1	0
B-STATE #		37			1			124			38			169			271			7			6			9			4			99			273	

AMPLITUDE	-.128			-.120			.112			-.109			.101			.100			.099			-.097			-.095			.094			-.093			.093		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	0	5	2	3	2	2	2	3	3	1	3	3	3	1	1	3	3	5	1	1	3	1	3	5	1	1	1	2	4	1	1	5	2	2	3
2*(S-S J'S)	4	0	3	0	1	0	0	0	1	5	1	3	5	1	3	5	1	3	5	1	3	5	1	5	5	1	3	5	0	4	5	1	3	0	2	1
2*(CPLED J)		4	1		1	1		0	1		4	1		4	1		4	1		4	1		6	1		4	1		5	1		4	1		2	1
2*(S-S T'S)	2	0	1	2	1	2	2	2	1	1	1	3	3	1	1	1	1	3	3	1	1	3	1	1	1	1	1	1	2	0	1	1	3	2	0	1
2*(CPLED T)		2	3		1	3		4	3		0	3		4	3		0	3		2	3		2	3		2	3		3	3		0	3		2	3
S-S SENIOR.	2	0	1	0	1	0	0	0	3	1	1	1	1	1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	0	2	1	1	1	0	2	3
B-STATE #		33			98			66			157			241			25			402			168			398			13			8			67	

THE OCCUPATION NUMBERS ARE: <F5>= 2.11, <P1>= 1.18, <P3>= 3.71
LISTED COMPONENTS ACCOUNT FOR 72.7 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 46.0 (SSS= 3) = 34.4 (SSS= 5) = 17.2 (SSS= 7) = 2.4

A= 63, 2*J= 1⁻, 2*T= 3, E= -81.560, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 425

AMPLITUDE	.449			.289			-.235			-.198			-.193			.181			-.180			.156			.151			.144			-.143			.123		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	4	4	1	2	4	1	2	2	3	2	1	2	4	2	0	5	1	3	3	2	1	4	6	1	0	1	0	6	1	1	5	3	1	3
2*(S-S J'S)	0	1	0	0	1	0	0	1	0	0	1	0	5	0	4	4	0	3	5	1	3	4	1	4	0	1	0	5	0	4	5	1	3	3	1	5
2*(CPLED J)		1	1		1	1		1	1		1	1		5	1		4	1		4	1		5	1		1	1		5	1		4	1		6	1
2*(S-S T'S)	2	1	0	0	1	2	4	1	2	2	1	2	1	2	0	2	0	1	1	1	1	2	1	0	2	1	0	1	0	2	1	1	3	3	1	1
2*(CPLED T)		3	3		1	3		5	3		1	3		3	3		2	3		2	3		3	3		3	3		1	3		2	3		4	3
S-S SENIOR.	0	1	0	0	1	0	0	1	0	0	1	0	1	0	2	2	0	1	1	1	1	2	1	2	0	1	0	1	0	2	1	1	1	1	1	3
B-STATE #		37			271			274			98			13			33			24			49			421			6			9			169	

AMPLITUDE	.114			-.113			-.112			.112			-.108			-.106			-.105			.101			.101			.100			-.096			-.094		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	4	3	1	3	2	1	4	4	0	3	4	3	0	2	0	5	3	0	4	1	1	5	3	1	3	1	1	5	2	2	3	2	3	2
2*(S-S J'S)	4	1	4	3	1	3	0	1	0	4	0	3	0	1	0	0	0	1	3	0	4	5	1	3	5	1	3	5	1	3	4	2	3	2	1	0
2*(CPLED J)		3	1		4	1		1	1		4	1		1	1		0	1		5	1		4	1		4	1		4	1		4	1		1	1
2*(S-S T'S)	2	1	0	1	1	1	2	1	4	0	0	3	4	1	0	2	0	1	3	0	2	1	1	3	1	1	3	1	1	1	2	0	1	0	1	2
2*(CPLED T)		3	3		2	3		3	3		0	3		3	3		2	3		3	3		0	3					2	3		2	3		1	3
S-S SENIOR.	2	1	2	3	1	1	0	1	0	2	0	1	0	1	0	0	0	3	1	0	2	1	1	1	1	1	1	1	1	1	2	2	1	2	1	0
B-STATE #		48			138			39			250			355			31			124			8			157			7			84			151	

THE OCCUPATION NUMBERS ARE: <F5>= 2.59, <P1>= 1.27, <P3>= 3.13
LISTED COMPONENTS ACCOUNT FOR 71.8 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 42.8 (SSS= 3) = 32.5 (SSS= 5) = 23.0 (SSS= 7) = 1.7

A= 64, 2*J= 0+, 2*T= 4, E= -93.957, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 287

AMPLITUDE	.378			.377			.372			.220			.198			.198			.195			-.190			-.174			-.166			.155			-.133		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	0	4	2	0	6	2	2	4	6	0	2	4	2	2	0	2	6	4	0	4	4	2	2	2	2	4	4	2	2	2	4	2	3	2	3
2*(S-S J'S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	2	5
2*(CPLED J)		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		5	0
2*(S-S T'S)	4	0	0	2	0	2	2	2	0	2	0	2	0	2	2	0	2	2	0	0	4	4	2	2	2	2	4	4	2	2	2	0	2	3	0	1
2*(CPLED T)		4	4		2	4		4	4		2	4		2	4		2	4		0	4		2	4		0	4		6	4		2	4		3	4
S-S SENIOR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	2	3
B-STATE #	112			8			17			259			162			1			110			164			18			166			41			92		

AMPLITUDE	-.118			-.108			-.105			.104			-.104			-.101			-.099			.099			-.094			.092			-.091			-.088		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	2	4	1	2	5	4	0	4	3	1	4	1	1	6	2	1	5	2	0	6	4	0	4	4	1	3	6	2	0	4	1	3	3	1	4
2*(S-S J'S)	0	0	0	5	2	3	0	0	0	5	1	4	5	1	4	0	1	1	4	0	4	4	0	4	4	1	3	0	0	0	0	1	1	5	1	6
2*(CPLED J)		0	0		3	0		0	0		4	0		4	0		1	0		4	0		4	0		3	0		0	0		1	0		6	0
2*(S-S T'S)	2	2	4	1	0	3	4	0	4	3	1	2	1	1	2	2	1	1	2	0	2	4	0	0	4	1	1	2	2	0	4	1	1	3	1	2
2*(CPLED T)		4	4		1	4		4	4		2	4		2	4		3	4		2	4		4	4		3	4		4	4		5	4		4	4
S-S SENIOR.	0	0	0	1	2	1	0	0	0	1	1	2	1	1	2	0	1	3	2	0	2	2	0	2	2	1	1	0	0	0	0	1	3	1	1	2
B-STATE #	20			5			113			62			3			10			9			118			146			280			126			65		

THE OCCUPATION NUMBERS ARE: <F5>= 3.05, <P1>= 1.11, <P3>= 3.84
LISTED COMPONENTS ACCOUNT FOR 84.7 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 76.6 (SSS= 4) = 20.8 (SSS= 6) = 2.5 (SSS= 8) = .0

A= 64, 2*J= 0+, 2*T= 4, E= -92.236, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 287

AMPLITUDE	-.440			-.323			-.192			.175			-.173			.169			-.165			.164			-.158			-.155			-.152			.145		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	1	5	3	0	5	4	1	3	3	0	5	4	1	3	2	3	3	5	0	3	2	2	4	3	1	4	4	1	3	3	1	4	3	2	3
2*(S-S J'S)	4	1	3	3	0	3	4	1	3	5	0	5	4	1	3	4	1	3	3	0	3	0	0	0	5	1	6	4	1	3	3	1	4	3	0	3
2*(CPLED J)		3	0		3	0		3	0		5	0		3	0		3	0		3	0		0	0		6	0		3	0		4	0		3	0
2*(S-S T'S)	2	1	1	3	0	1	4	1	1	3	0	1	0	1	3	2	1	3	1	0	3	2	2	0	3	1	2	2	1	3	3	1	0	3	2	3
2*(CPLED T)		3	4		3	4		5	4		3	4		1	4		1	4		1	4		4	4		2	4		1	4		4	4		1	4
S-S SENIOR.	2	1	1	3	0	1	2	1	1	1	0	3	2	1	1	2	1	1	3	0	1	0	0	0	1	1	2	2	1	1	3	1	2	3	0	1
B-STATE #	12			44			147			46			135			37			205			17			64			139			54			79		

AMPLITUDE	.135			-.123			-.121			.119			-.112			-.105			-.100			.098			-.098			.097			.095			-.094		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	2	2	4	3	2	3	4	0	4	2	0	6	2	2	4	3	1	4	2	2	4	2	1	5	2	3	3	4	2	2	4	1	3	2	1	5
2*(S-S J'S)	4	0	4	3	0	3	4	0	4	0	0	0	4	2	2	3	1	2	8	2	6	8	1	7	4	1	3	0	0	0	4	1	3	0	1	1
2*(CPLED J)		4	0		3	0		4	0		0	0		2	0		2	0		6	0		7	0		3	0		0	0		3	0		1	0
2*(S-S T'S)	2	2	0	3	2	1	4	0	0	2	0	2	2	0	2	3	1	2	2	0	2	2	1	1	2	1	3	0	2	2	4	1	1	2	1	1
2*(CPLED T)		4	4		5	4		4	4		2	4		2	4		2	4		2	4		3	4		3	4		2	4		3	4		3	4
S-S SENIOR.	2	0	2	3	0	1	2	0	2	0	0	0	2	2	2	3	1	2	2	2	2	2	1	3	2	1	1	0	0	0	2	1	1	0	1	3
B-STATE #	24			78			118			8			28			52			33			16			38			162			146			10		

THE OCCUPATION NUMBERS ARE: <F5>= 2.97, <P1>= 1.17, <P3>= 3.86
LISTED COMPONENTS ACCOUNT FOR 71.4 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 7.8 (SSS= 4) = 75.1 (SSS= 6) = 16.6 (SSS= 8) = .5

A= 65, 2*J= 1⁻, 2*T= 5, E=-101.878, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 482

AMPLITUDE	-.580			-.340			-.282			.214			-.189			.185			-.129			.127			.125			-.117			.109			.108		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		2	1	6	4	1	4	4	1	4	3	1	5	6	1	2	2	3	4	2	3	4	4	3	2	2	1	6	2	2	5	5	1	3	2	1	6
2*(S-S J'S)	0	1	0	0	1	0	0	1	0	5	1	3	0	1	0	0	1	0	0	1	0	0	1	0	4	1	4	0	0	1	5	1	3	4	1	4
2*(CPLED J)		1	1		1	1		1	1		4	1		1	1		1	1		1	1		1	1		5	1		0	1		4	1		3	1
2*(S-S T'S)	2	1	2	4	1	0	0	1	4	3	1	3	2	1	2	2	1	4	2	1	4	4	1	2	2	1	2	2	2	1	1	1	3	2	1	2
2*(CPLED T)		3	5		5	5		1	5		2	5		3	5		1	5		3	5		3	5		3	5		4	5		2	5		3	5
S-S SENIOR.	0	1	0	0	1	0	0	1	0	1	1	1	0	1	0	0	1	0	0	1	0	0	1	0	2	1	2	0	0	3	1	1	1	2	1	2
B-STATE #		3			119			117			41			409			16			17			232			5			6			301			4	

AMPLITUDE	.106			.101			-.095			.094			.094			-.093			-.082			.078			.074			-.074			-.073			.071		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		4	1	4	2	2	5	3	3	3	3	0	6	4	1	4	3	2	4	4	3	2	5	0	4	2	3	4	4	2	3	4	2	3	3	1	5
2*(S-S J'S)	0	1	0	4	0	3	5	1	3	5	0	4	0	1	0	5	0	6	0	1	0	5	0	4	0	1	2	0	0	1	4	0	3	3	1	3
2*(CPLED J)		1	1		4	1		4	1		5	1		1	1		5	1		1	1		5	1		1	1		0	1		4	1		4	1
2*(S-S T'S)	4	1	4	2	2	1	3	1	3	3	0	2	4	1	4	3	2	2	4	1	2	5	0	0	2	1	2	4	2	1	4	2	1	1	1	3
2*(CPLED T)		3	5		4	5		4	5		3	5		5	5		5	5		5	5		5	5		3	5		6	5		6	5		2	5
S-S SENIOR.	0	1	0	2	0	1	1	1	1	1	0	2	0	1	0	1	0	2	0	1	0	1	0	2	0	1	2	0	0	3	2	0	1	3	1	1
B-STATE #		120			9			100			27			121			74			233			266			18			170			202			30	

THE OCCUPATION NUMBERS ARE: <F5>= 3.10, <P1>= 1.31, <P3>= 4.59
LISTED COMPONENTS ACCOUNT FOR 82.3 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 66.4 (SSS= 3) = 21.7 (SSS= 5) = 10.8 (SSS= 7) = 1.1

A= 65, 2*J= 1⁻, 2*T= 5, E=-101.238, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 482

AMPLITUDE	-.413			-.313			.255			-.248			-.218			.201			.173			-.159			-.146			.129			.123			-.122		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		4	1	4	3	1	5	3	2	4	6	1	2	2	2	5	4	3	2	3	3	3	5	1	3	3	0	6	3	3	3	4	2	3	6	1	2
2*(S-S J'S)	0	1	0	5	1	3	5	0	4	0	1	0	4	0	3	0	1	0	5	1	3	5	1	3	5	0	4	5	1	3	4	2	3	0	1	0
2*(CPLED J)		1	1		4	1		5	1		1	1		4	1		1	1		4	1		4	1		5	1		4	1		2	1		1	1
2*(S-S T'S)	4	1	0	3	1	3	3	2	2	2	1	2	2	2	1	4	1	2	3	1	3	1	1	3	3	0	2	3	1	3	4	0	1	6	1	2
2*(CPLED T)		5	5		2	5		3	5		3	5		4	5		3	5		2	5		2	5		3	5		4	5		4	5		7	5
S-S SENIOR.	0	1	0	1	1	1	1	0	2	0	1	0	2	0	1	0	1	0	1	1	1	1	1	1	1	0	2	1	1	1	2	2	1	0	1	0
B-STATE #		119			41			71			409			9			232			99			301			27			100			209			412	

AMPLITUDE	-.119			-.116			-.114			-.107			.106			.106			-.100			-.098			-.094			.094			-.090			.089		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.		4	1	4	4	1	4	3	1	5	4	0	5	3	1	5	4	0	5	5	1	3	4	2	3	1	2	6	4	2	3	5	0	4	2	2	5
2*(S-S J'S)	4	1	4	4	1	4	5	1	3	4	0	3	5	1	5	0	0	1	5	1	3	4	0	3	5	0	4	4	2	3	5	0	4	0	0	1
2*(CPLED J)		3	1		5	1		4	1		4	1		4	1		0	1		4	1		4	1		5	1		4	1		5	1		0	1
2*(S-S T'S)	4	1	0	4	1	0	3	1	3	4	0	1	3	1	1	4	0	1	5	1	1	0	2	3	1	2	2	4	0	1	5	0	0	2	2	1
2*(CPLED T)		5	5		5	5		4	5		4	5		4	5		4	5		6	5		2	5		3	5		4	5		5	5		4	5
S-S SENIOR.	2	1	2	2	1	2	1	1	1	2	0	1	1	1	3	0	0	3	1	1	1	2	0	1	1	0	2	2	2	1	1	0	2	0	0	3
B-STATE #		144			145			42			113			43			108			318			186			1			210			266			6	

THE OCCUPATION NUMBERS ARE: <F5>= 3.85, <P1>= 1.48, <P3>= 3.66
LISTED COMPONENTS ACCOUNT FOR 73.3 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 31.1 (SSS= 3) = 51.3 (SSS= 5) = 15.1 (SSS= 7) = 2.6

A= 66, 2*J= 0+, 2*T= 6, E=-112.661, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 191

AMPLITUDE	.433			.406			.396			.222			.218			-.210			.192			-.190			.161			.148			-.146			-.129		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG:	4	0	6	2	2	6	4	2	4	6	0	4	6	2	2	6	0	4	4	2	4	4	2	4	4	4	2	2	4	4	3	1	6	3	2	5
2*(S-S J'S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	4	5	2	3
2*(CPLED J)		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		4	0		3	0
2*(S-S T'S)	4	0	2	2	2	2	4	2	0	2	0	4	2	2	2	6	0	0	0	2	4	4	2	4	4	0	2	2	0	4	3	1	2	3	0	3
2*(CPLED T)		4	6		4	6		6	6		2	6		4	6		6	6		2	6		2	6		4	6		2	6		4	6		3	6
S-S SENIOR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	1	2	1
B-STATE #		20			1			34			126			152			128			32			35			67			4			6			13	

AMPLITUDE	.121			-.117			-.113			-.110			.102			-.095			.092			-.091			.085			-.083			.065			-.064		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG:	8	0	2	4	2	4	4	0	6	4	1	5	6	2	2	4	1	5	6	2	2	2	2	6	4	2	4	4	2	4	5	2	3	5	2	3
2*(S-S J'S)	0	0	0	0	0	0	4	0	4	0	1	1	0	0	0	4	1	3	0	0	0	4	0	4	4	0	4	0	2	2	5	2	3	5	2	3
2*(CPLED J)		0	0		0	0		4	0		1	0		0	0		3	0		0	0		4	0		4	0		2	0		3	0		3	0
2*(S-S T'S)	4	0	2	4	2	4	4	0	2	4	1	1	6	2	2	4	1	3	6	2	2	2	2	2	4	2	0	4	0	2	5	0	1	3	0	3
2*(CPLED T)		4	6		6	6		4	6		5	6		4	6		3	6		8	6		4	6		6	6		4	6		5	6		3	6
S-S SENIOR.	0	0	0	0	0	0	2	0	2	0	1	3	0	0	0	2	1	1	0	0	0	2	0	2	2	0	2	0	2	2	1	2	1	1	2	1
B-STATE #		188			37			21			22			154			28			156			2			45			38			112			107	

THE OCCUPATION NUMBERS ARE: <F5>= 4.03, <P1>= 1.41, <P3>= 4.56
LISTED COMPONENTS ACCOUNT FOR 92.1 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 82.9 (SSS= 4) = 16.8 (SSS= 6) = .3

A= 66, 2*J= 0+, 2*T= 6, E=-109.820, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 191

AMPLITUDE	-.300			-.234			-.220			-.209			-.197			.195			-.190			-.182			-.180			.172			.161			.159		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG:	4	2	4	4	1	5	3	2	5	2	2	6	4	0	6	4	1	5	3	1	6	6	2	2	4	2	4	4	0	6	4	2	4	4	2	4
2*(S-S J'S)	0	0	0	4	1	3	5	2	3	0	0	0	4	0	4	4	1	3	5	1	4	0	0	0	0	0	0	0	0	0	2	0	2	4	2	2
2*(CPLED J)		0	0		3	0		3	0		0	0		4	0		3	0		4	0		0	0		0	0		0	0		2	0		2	0
2*(S-S T'S)	4	2	0	4	1	3	3	0	3	2	2	2	4	0	2	4	1	3	3	1	2	2	2	2	4	2	4	4	0	2	2	2	2	4	0	2
2*(CPLED T)		6	6		3	6		3	6		4	6		4	6		5	6		4	6		4	6		2	6		4	6		4	6		4	6
S-S SENIOR.	0	0	0	2	1	1	1	2	1	0	0	0	2	0	2	2	1	1	1	1	2	0	0	0	0	0	0	0	0	0	2	0	2	2	2	2
B-STATE #		34			28			13			1			21			29			6			152			35			20			39			49	

AMPLITUDE	.145			-.141			.139			.138			-.127			.125			-.124			-.120			.114			-.113			.111			.107		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG:	4	2	4	4	2	4	5	1	4	5	1	4	3	1	6	5	0	5	3	2	5	3	2	5	4	2	4	5	1	4	4	2	4	4	3	3
2*(S-S J'S)	0	0	0	0	0	0	1	1	0	5	1	4	3	1	4	5	0	5	3	0	3	3	0	3	4	0	4	5	1	4	2	2	0	4	1	3
2*(CPLED J)		0	0		0	0		0	0		4	0		4	0		5	0		3	0		3	0		4	0		4	0		0	0		3	0
2*(S-S T'S)	4	2	4	0	2	4	3	1	4	5	1	0	3	1	2	5	0	1	3	2	3	1	2	3	4	2	2	5	1	2	2	0	4	4	1	1
2*(CPLED T)		4	6		2	6		2	6		6	6		4	6		5	6		3	6		3	6		4	6		4	6		2	6		5	6
S-S SENIOR.	0	0	0	0	0	0	3	1	0	1	1	2	3	1	2	1	0	3	3	0	1	3	0	1	2	0	2	1	1	2	2	2	0	2	1	1
B-STATE #		36			32			74			85			5			71			9			7			47			87			40			62	

THE OCCUPATION NUMBERS ARE: <F5>= 4.10, <P1>= 1.55, <P3>= 4.35
LISTED COMPONENTS ACCOUNT FOR 68.6 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 29.4 (SSS= 4) = 55.8 (SSS= 6) = 14.8

A= 67, 2*J= 1, 2*T= 7, E=-119.779, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 180

AMPLITUDE	-.675			-.334			.248			-.224			.167			.158			.147			.127			-.126			-.125			.118			.112		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	1	6	6	1	4	4	3	4	5	1	5	6	1	4	4	1	5	4	1	6	4	2	5	3	2	6	4	2	5	3	3	5	4	2	5
2*(S-S J'S)	0	1	0	0	1	0	0	1	0	5	1	3	0	1	0	4	1	4	4	1	4	4	0	3	5	0	4	0	0	1	5	1	3	4	2	3
2*(CPLED J)		1	1		1	1		1	1		4	1		1	1		5	1		3	1		4	1		5	1		0	1		4	1		2	1
2*(S-S T'S)	4	1	2	2	1	4	4	1	4	5	1	1	6	1	0	4	1	2	4	1	2	4	2	1	3	2	2	4	2	1	3	1	3	4	0	3
2*(CPLED T)		5	7		3	7		3	7		6	7		7	7		5	7		5	7		6	7		5	7		6	7		4	7		4	7
S-S SENIOR.	0	1	0	0	1	0	0	1	0	1	1	1	0	1	0	2	1	2	2	1	2	2	0	1	1	0	2	0	0	3	1	1	1	2	2	1
B-STATE #		6			93			22			41			95			8			7			15			2			9			5			19	

AMPLITUDE	-.107			-.106			.099			-.098			.097			.089			.087			-.076			.074			-.071			.068			.066		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	3	4	7	1	3	4	2	5	8	1	2	5	2	4	4	3	4	5	3	3	6	2	3	5	2	4	6	3	2	5	3	3	5	2	4
2*(S-S J'S)	0	1	0	5	1	3	4	2	3	0	1	0	5	0	4	0	1	2	5	1	3	4	0	3	1	2	0	0	1	0	5	1	3	5	0	4
2*(CPLED J)		1	1		4	1		4	1		1	1		5	1		1	1		4	1		4	1		1	1		1	1		4	1		5	1
2*(S-S T'S)	4	1	4	3	1	3	4	0	3	4	1	2	5	2	2	4	1	2	5	1	3	2	2	3	3	0	4	6	1	2	3	1	3	5	2	0
2*(CPLED T)		5	7		4	7		4	7		5	7		7	7		5	7		4	7		4	7		3	7		5	7		4	7		7	7
S-S SENIOR.	0	1	0	1	1	1	2	2	1	0	1	0	1	0	2	0	1	2	1	1	1	2	0	1	3	2	0	0	1	0	1	1	1	1	0	2
B-STATE #		23			157			20			177			66			24			84			127			52			141			81			63	

THE OCCUPATION NUMBERS ARE: <F5>= 4.51, <P1>= 1.39, <P3>= 5.10
LISTED COMPONENTS ACCOUNT FOR 91.9 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 68.8 (SSS= 3) = 20.0 (SSS= 5) = 11.2

A= 67, 2*J= 1, 2*T= 7, E=-118.880, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 180

AMPLITUDE	.487			.422			-.271			-.271			-.239			.238			-.187			-.183			-.124			-.123			.108			-.103		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	5	1	5	6	1	4	5	2	4	4	2	5	8	1	2	7	1	3	6	3	2	5	3	3	4	1	6	7	2	2	6	2	3	4	4	3
2*(S-S J'S)	5	1	3	0	1	0	5	0	4	4	0	3	0	1	0	5	1	3	0	1	0	5	1	3	0	1	0	5	0	4	4	0	3	4	0	3
2*(CPLED J)		4	1		1	1		5	1		4	1		1	1		4	1		1	1		4	1		1	1		5	1		4	1		4	1
2*(S-S T'S)	5	1	1	6	1	0	5	2	0	4	2	1	4	1	2	3	1	3	6	1	2	5	1	3	4	1	2	3	2	2	2	2	3	4	0	3
2*(CPLED T)		6	7		7	7		7	7		6	7		5	7		4	7		5	7		4	7		5	7		5	7		4	7		4	7
S-S SENIOR.	1	1	1	0	1	0	1	0	2	2	0	1	0	1	0	1	1	1	0	1	0	1	1	1	0	1	0	1	0	2	2	0	1	2	0	1
B-STATE #		41			95			63			15			177			157			141			84			6			168			127			32	

AMPLITUDE	-.100			-.094			-.093			.090			.089			.084			.084			-.083			-.081			.077			-.072			.071		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	3	2	6	5	4	2	5	3	3	5	0	6	5	1	5	5	2	4	3	3	5	6	1	4	6	0	5	5	3	3	6	2	3	6	2	3
2*(S-S J'S)	5	0	4	5	0	4	5	1	3	5	0	4	5	1	5	5	2	2	5	1	3	0	1	0	0	0	1	5	1	3	6	2	3	4	0	3
2*(CPLED J)		5	1		5	1		4	1		5	1		4	1		3	1		4	1		1	1		0	1		4	1		4	1		4	1
2*(S-S T'S)	3	2	2	5	0	2	5	1	1	5	0	2	5	1	1	5	0	2	3	1	3	2	1	4	6	0	1	5	1	3	4	0	3	4	2	3
2*(CPLED T)		5	7		5	7		6	7		5	7		6	7		5	7		4	7		3	7		6	7		6	7		4	7		4	7
S-S SENIOR.	1	0	2	1	0	2	1	1	1	1	0	2	1	1	3	1	2	2	1	1	1	0	1	0	0	0	3	1	1	1	2	2	1	2	0	1
B-STATE #		2			89			83			33			44			69			5			93			90			85			139			132	

THE OCCUPATION NUMBERS ARE: <F5>= 5.49, <P1>= 1.52, <P3>= 3.99
LISTED COMPONENTS ACCOUNT FOR 88.4 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 1) = 30.3 (SSS= 3) = 62.2 (SSS= 5) = 7.5

A= 68, 2*J= 0+, 2*T= 8, E=-129.406, EIGENVECTOR #1 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 43

AMPLITUDE	.643			-.355			-.320			.318			.225			.181			.179			-.153			.152			.138			-.126			.093		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	2	6	6	0	6	6	2	4	6	2	4	4	4	4	8	0	4	8	2	2	4	2	6	6	2	4	5	1	6	6	4	2	6	2	4
2*(S-S J'S)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	4	0	4	0	0	0	5	1	4	0	0	0	0	0	0
2*(CPLED J)		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		0	0		4	0		0	0		0	0
2*(S-S J'S)	4	2	2	6	0	2	6	2	0	2	2	4	4	0	4	4	0	4	4	2	2	4	2	2	6	2	4	5	1	2	6	0	2	6	2	4
2*(CPLED T)		6	8		6	8		8	8		4	8		4	8		4	8		6	8		6	8		4	8		6	8		6	8		8	8
S-S SENIOR.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	1	1	2	0	0	0	0	0	0
B-STATE #		1			13			19			17			4			40			42			2			20			5			31			22	

AMPLITUDE	.092			.088			.086			.063			-.051			-.046			-.045			.043			-.039			.038			.038			.036		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	5	2	5	6	1	5	4	3	5	6	2	4	5	3	4	7	2	3	5	2	5	6	2	4	7	1	4	5	3	4	6	1	5	6	3	3
2*(S-S J'S)	5	2	3	0	1	1	4	1	3	0	2	2	1	1	0	5	2	3	3	0	3	2	2	0	1	1	0	5	1	4	4	1	3	0	1	1
2*(CPLED J)		3	0		1	0		3	0		2	0		0	0		3	0		3	0		0	0		0	0		4	0		3	0		1	0
2*(S-S J'S)	5	0	3	6	1	1	4	1	3	6	0	2	3	1	4	5	0	3	3	2	3	4	0	4	3	1	4	5	1	2	4	1	3	6	1	1
2*(CPLED T)		5	8		7	8		5	8		6	8		4	8		5	8		5	8		4	8		4	8		6	8		5	8		7	8
S-S SENIOR.	1	2	1	0	1	3	2	1	1	0	2	2	3	1	0	1	2	1	3	0	1	2	2	0	3	1	0	1	1	2	2	1	1	0	1	3
B-STATE #		9			14			3			23			10			38			6			25			32			11			16			28	

THE OCCUPATION NUMBERS ARE: <F5>= 5.11, <P1>= 1.80, <P3>= 5.09
LISTED COMPONENTS ACCOUNT FOR 99.1 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 90.7 (SSS= 4) = 9.3

A= 68, 2*J= 0+, 2*T= 8, E=-126.518, EIGENVECTOR #2 OF THIS A,J,T. MODEL CORE= 56 ,DIMENSION= 43

AMPLITUDE	.484			.421			-.331			-.310			-.310			-.239			.172			-.159			.152			.149			-.147			.128		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	4	2	6	6	0	6	4	2	6	6	2	4	8	0	4	5	2	5	4	3	5	6	2	4	6	2	4	6	4	2	8	2	2	7	2	3
2*(S-S J'S)	0	0	0	0	0	0	4	0	4	0	0	0	0	0	0	3	2	3	4	1	3	0	2	2	0	0	0	0	0	0	0	0	0	5	2	3
2*(CPLED J)		0	0		0	0		4	0		0	0		0	0		3	0		3	0		2	0		0	0		0	0		0	0		3	0
2*(S-S J'S)	4	2	2	6	0	2	4	2	2	6	2	4	4	0	4	5	0	3	4	1	3	6	0	2	6	2	4	6	0	2	4	2	2	5	0	3
2*(CPLED T)		6	8		6	8		6	8		4	8		4	8		5	8		5	8		6	8		6	8		6	8		6	8		3	8
S-S SENIOR.	0	0	0	0	0	0	2	0	2	0	0	0	0	0	0	1	2	1	2	1	1	0	2	2	0	0	0	0	0	0	0	0	0	1	2	1
B-STATE #		1			13			2			20			40			9			3			23			21			31			42			38	

AMPLITUDE	.110			-.103			-.090			-.084			.081			.079			.078			-.076			-.070			-.070			-.070			-.064		
S-S LABELS	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3	F5	P1	P3
CONFIG.	6	2	4	6	2	4	6	1	5	5	1	6	5	2	5	6	2	4	7	1	4	6	2	4	5	2	5	7	1	4	8	1	3	5	3	4
2*(S-S J'S)	0	0	0	2	2	0	0	1	1	5	1	4	5	0	5	0	0	0	1	1	0	2	0	2	3	0	3	5	1	4	4	1	3	1	1	0
2*(CPLED J)		0	0		0	0		1	0		4	0		5	0		0	0		0	0		2	0		3	0		4	0		3	0		0	0
2*(S-S J'S)	6	2	0	4	0	4	6	1	1	5	1	2	5	2	1	2	2	4	3	1	4	4	2	2	3	2	3	5	1	2	4	1	3	3	1	4
2*(CPLED T)		8	8		4	8		7	8		6	8		7	8		4	8		4	8		6	8		5	8		6	8		5	8		4	8
S-S SENIOR.	0	0	0	2	2	0	0	1	3	1	1	2	1	0	3	0	0	0	3	1	0	2	0	2	3	0	1	1	1	2	2	1	1	3	1	0
B-STATE #		19			25			14			5			8			17			32			24			6			33			41			10	

THE OCCUPATION NUMBERS ARE: <F5>= 5.45, <P1>= 1.50, <P3>= 5.04
LISTED COMPONENTS ACCOUNT FOR 98.9 PER CENT OF THE WAVE FUNCTION
% WF FOR (SSS= 0) = 68.9 (SSS= 4) = 31.1