Contents

1.	С.	MAHAUX			
	PRESENT STATUS OF INTERMEDIATE REACTION THEORIES				
	1.	Introduction	1		
	2.	Theoretical Framework	3		
	3.	Doorway States	6		
	4.	Isolated Doorway State	11		
	5.	Intermediate Structure	16		
	6.	Examples of Intermediate Structure	24		
	7.	Partial Widths Correlation due to Direct Reactions	34		
	8.	Conclusions	36		
		References	37		
2.	М.	BLANN			
	NU	CLEAR EQUILIBRATION PROCESSES AT MODERATE EXCITATIONS			
	1.	Introduction	43		
	2.	The Intranuclear Cascade Model	44		
	3.	The Harp-Miller-Berne Model	44		
	4.	The Exciton Model	50		
	5.	The Hybrid Model	62		
	6.	The Geometry Dependent Hybrid Model	69		
	7.	Comparisons of Results Calculated with Several Models	70		
	8.	Conclusions	76		
	9.	Acknowledgments	79		
		References	81		
3.	E.	GADIOLI and L. MILAZZO-COLLI			
	PRE-EQUILIBRIUM EMISSION IN NEUTRON AND PROTON INDUCED				
	RE	ACTIONS			
	l.	Introduction	84		
	2.	Neutron Induced Reactions	85		
	3.	Proton Induced Reactions	100		
	4.	Final Conclusions and Lifetime of an Exciton in the			
		Nucleus	115		
		References	116		
4.	D.	SPERBER			
		E INTERMEDIATE STATE IN FISSION AND SHAPE ISOMERS			
	ı.	Introduction	117		



VIII

	2.	Theory of Potential Surfaces	119
	3.	Statistical Models for Shape Isomers	120
	4.	Time Dependent Statistical Approach	124
	5.	Comparison with Experiment	133
	6.	Discussion	139
		References	140
<u>5.</u>	W.	SCHEID, H.J. FINK and H. MÜLLER	
	NUC	CLEAR MOLECULAR STRUCTURE IN HEAVY ION SCATTERING	
	1.	Introduction	144
	2.	The Nucleus-Nucleus Interaction	147
	3.	Molecular States	158
	4.	Intermediate Structure in 12C-12C	168
	5.	Summary and Conclusions	170
		References	176
<u>6.</u>	R.C	G. STOKSTAD	
	MOI	LECULAR RESONANCES AND INTERMEDIATE PROCESSES IN	
	HE	AVY ION REACTIONS	
	1.	Introduction	179
	2.	Resonances Near the Coulomb Barrier	180
	3.	Intermediate Structure above the Coulomb Barrier	204
	4.	Summary and Conclusions	233
		References	236
<u>7.</u>	Μ.	PETRASCU	
	INT	TERMEDIATE STRUCTURE IN ISOBARIC ANALOGUE RESONANCES	
	1.	Gross Structure of Isobaric Analogue Resonances as	
		Intermediate Structure	240
	2.	Substructures in IAR	250
		References	266
<u>8.</u>	Р.	von BRENTANO	
	THI	E ENERGY-AVERAGED S-MATRIX AND DOORWAY RESONANCES	
	ı.	Introduction	267
	2.	The S-Matrix for Many Resonances, Extension into the	
		Complex Plane	268
	3.	The S-Matrix for an Isolated Doorway Resonance	274
		References	277
<u>9.</u>	F.	CVELBAR	
	THI	E MECHANISM OF FAST NEUTRON RADIATIVE CAPTURE	
	1.	Introduction	278
	2.	The Semidirect Capture Model	280
	3.	Comparison with Experimental Results	283
		References	293

10. L. PAPINEAU	
SIMPLE STRUCTURES IN THE EXIT CHANNEL	
1. Introductory Remarks	295
2. Simple Structures in Residual States	297
3. Simple Structures in Exit Channels	303
4. Conclusion - Future in Heavy-Ion Reactions	310
References	315
11.H. FESHBACH	
SUMMARY AND CONCLUSIONS	317
SEMINARS HELD AT THE CONFERENCE	329