

CONTENTS

General Introduction

	Page
A. INTRODUCTORY REMARKS.....	i
B. SCOPE OF THE TABLES.....	i
C. CRITICAL REVIEW OF THE DATA SOURCES AND METHOD OF EVALUATION.....	i
1. General Review of the Problem.....	i
2. The Critical Factors for Determining Transition Probabilities.....	ii
a. Critical Factors in the Experimental Methods.....	ii
α . Measurements in Emission.....	ii
β . Measurements of Anomalous Dispersion.....	iii
γ . Lifetime Measurements.....	iii
b. Critical Factors in the Theoretical Methods.....	iii
α . Calculations Based on Self-Consistent Field (SCF) Wave Functions.....	iii
β . The Nuclear Charge-Expansion Method.....	iii
γ . The Coulomb Approximation.....	v
δ . LS-coupling.....	vii
c. Critical Factors for Forbidden Lines.....	viii
3. Exploitation of Systematic Trends.....	x
a. Dependence of f -values on Nuclear Charge Z	x
b. Systematic Trends of f -values Within Spectral Series.....	x
c. Homologous Atoms.....	x
d. Examples.....	x
4. Classification of Uncertainties.....	xiv
D. GENERAL ARRANGEMENTS OF THE TABLES.....	xv
E. FUTURE PLANS AND ACKNOWLEDGMENTS.....	xv
REFERENCES.....	xv
KEY TO ABBREVIATIONS AND SYMBOLS USED IN THE TABLES.....	xvi
USEFUL RELATIONS.....	xvi
CONVERSION FACTORS.....	xvii

List of Tables

Spectrum	Page	Spectrum	Page
Sodium		Silicon	
Na I.....	1	Si I.....	71
Na II.....	8	Si II.....	76
Na III.....	9	Si III.....	81
Na IV.....	12	Si IV.....	87
Na V.....	14	Si V.....	91
Na VI.....	16	Si VI.....	92
Na VII.....	19	Si VII.....	93
Na VIII.....	21	Si VIII.....	94
Na IX.....	23	Si IX.....	96
Magnesium		Si X.....	98
Mg I.....	25	Si XI.....	101
Mg II.....	29	Si XII.....	103
Mg III.....	31	Phosphorus	
Mg IV.....	32	P I.....	105
Mg V.....	34	P II.....	110
Mg VI.....	35	P III.....	114
Mg VII.....	37	P IV.....	116
Mg VIII.....	40	P V.....	120
Mg IX.....	42	P VI.....	121
Mg X.....	44	P VII.....	122
Mg XI.....	46	P VIII.....	123
Aluminum		P IX.....	124
Al I.....	47	P X.....	127
Al II.....	51	P XI.....	128
Al III.....	56	P XII.....	130
Al IV.....	58	P XIII.....	131
Al V.....	59	Sulfur	
Al VI.....	60	S I.....	133
Al VII.....	61	S II.....	138
Al VIII.....	63	S III.....	145
Al IX.....	65	S IV.....	148
Al X.....	67	S V.....	150
Al XI.....	69	S VI.....	152
Al XII.....	70	S VII.....	154

List of Tables—Continued

<i>Spectrum</i>	<i>Page</i>	<i>Spectrum</i>	<i>Page</i>
Sulfur—Continued		Potassium	
S VIII.....	154	K I.....	225
S IX.....	155	K III.....	233
S X.....	156	K IV.....	234
S XII.....	157	K V.....	236
Chlorine		K VI.....	237
Cl I.....	158	K VII.....	239
Cl II.....	162	K VIII.....	240
Cl III.....	171	K IX.....	241
Cl IV.....	177	K X.....	242
Cl V.....	179	K XI.....	243
Cl VI.....	180	K XIV.....	244
Cl VII.....	182	Calcium	
Cl VIII.....	184	Ca I.....	245
Cl IX.....	184	Ca II.....	250
Cl X.....	185	Ca IV.....	255
Argon		Ca V.....	256
Ar I.....	187	Ca VI.....	257
Ar II.....	201	Ca VII.....	259
Ar III.....	211	Ca VIII.....	260
Ar IV.....	214	Ca IX.....	261
Ar V.....	216	Ca X.....	263
Ar VI.....	218	Ca XI.....	264
Ar VII.....	219	Ca XII.....	265
Ar VIII.....	220	Ca XIII.....	266
Ar IX.....	222	Ca XV.....	266
Ar X.....	222	List of Recent Additional Material.....	268
Ar XI.....	223		
Ar XIII.....	223		
Ar XIV.....	224		

