CONTENTS

Chapter		*Page*
	Preface	vii
I.	INTRODUCTION	1
	(a) The Deuteron Stripping Reaction	3
	(b) Other Direct Reactions Related to Deuteron Stripping	14
	(c) Surface Reactions	16
II.	DEUTERON STRIPPING: CROSS-SECTION IN SIMPLE CASE	25
	(1) Formal Derivation	25
	(2) The Stripping Transform	36
	(3) Introduction of Reduced Width	39
III.	DEUTERON STRIPPING: CROSS-SECTION IN NUCLEAR CASE	42
	(1) Formal Derivation	42
	(2) The Stripping Transform	47
	(3) Introduction of Reduced Width	49
	(4) The Nuclear Radius	51
IV.	CORRECTIONS TO THE STRIPPING APPROXIMATIONS	54
	(1) Formal Derivation	54
	(2) Simplification of the General Stripping Cross-section	58
V.	COULOMB CORRECTIONS IN DEUTERON STRIPPING	62
	(1) Effects of Coulomb Scattering of Incident and Final Particles	62
	(2) Coulomb Effects on the Captured Particle	69
VI.	NUCLEAR CORRECTIONS IN DEUTERON STRIPPING	71
VII.	REDUCED WIDTHS FROM STRIPPING	77
VIII.	STRIPPING ANGULAR CORRELATIONS	84

Chapter *Page*

IX. Polarisation of Outgoing Particles - - 88

X. Alternative Methods of Deriving the Stripping Cross-section: Boundary Matching - - 91

XI. Alternative Methods of Deriving the Stripping Cross-section: Matrix Formulation - - 96

(1) The Matrix Element - - - - 96

(2) Evaluation of Matrix Element by Stripping Approximations - - - - 98

(3) Evaluation of Matrix Element by Born Approximation - - - - 100

(4) Corrections to the Stripping Approximations - 101

XII. Direct Reactions Related to Deuteron Stripping 103

(1) Pick-up Reaction - - - - 103

(2) Stripping and Pick-up with the Triton or Helium 3 - - - - - 107

XIII. Surface Reactions - - - - - 114

(1) General Remarks - - - - - 114

(2) An Approximate Calculation for a Particular Case - - - - - - 115

(3) Further Surface Reactions - - - 122

(4) Comparison with Experiment and Discussion 125

References - - - - - - - 129