

QUANTA
AND
FIELDS

THE BIGGEST IDEAS
IN THE UNIVERSE

SEAN CARROLL



DUTTON

CONTENTS

	Introduction	1	
ONE	Wave Functions	7	
TWO	Measurement	33	
THREE	Entanglement	57	
FOUR	Fields	77	
FIVE	Interactions	99	
SIX	Effective Field Theory	123	
SEVEN	Scale	149	
EIGHT	Symmetry	167	
NINE	Gauge Theory	193	
TEN	Phases	213	
ELEVEN	Matter	235	
TWELVE	Atoms	253	
	Appendix: Fourier Transforms	273	
	Index	281	