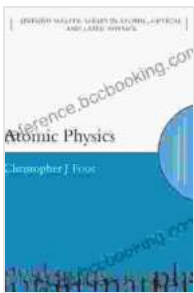


Atomic Physics: Oxford Master Series in Physics

Embark on an extraordinary journey into the realm of atomic physics with our illuminating book, 'Atomic Physics: Oxford Master Series in Physics'. This comprehensive guide unravels the mysteries of the atom, taking you from the foundational concepts of atomic structure to the frontiers of cutting-edge research.



Atomic Physics (Oxford Master Series in Physics Book

7) by Ally Carter

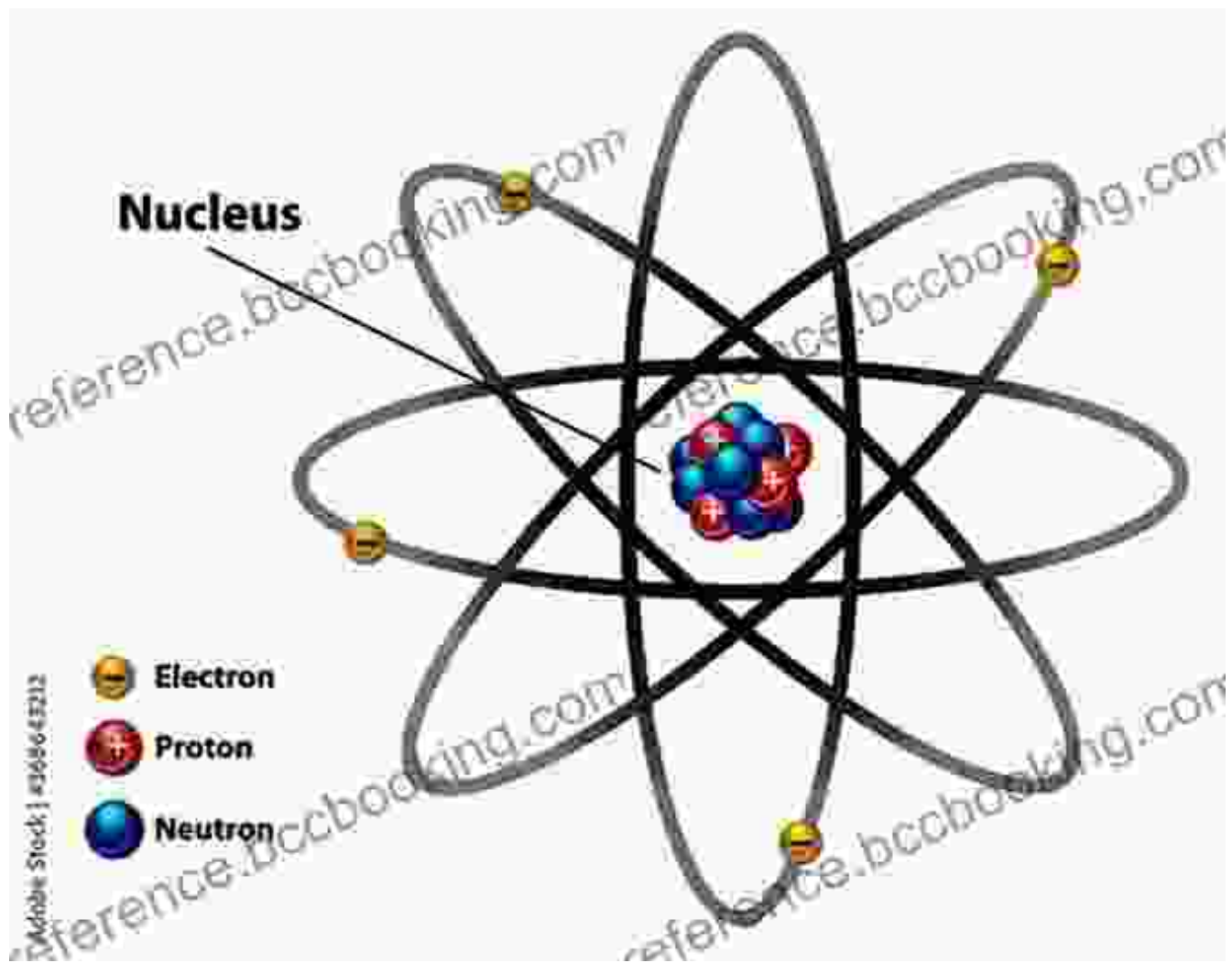
★★★★☆ 4.3 out of 5

Language : English
File size : 21122 KB
Text-to-Speech : Enabled
Screen Reader : Supported
Enhanced typesetting : Enabled
Print length : 717 pages
Lending : Enabled



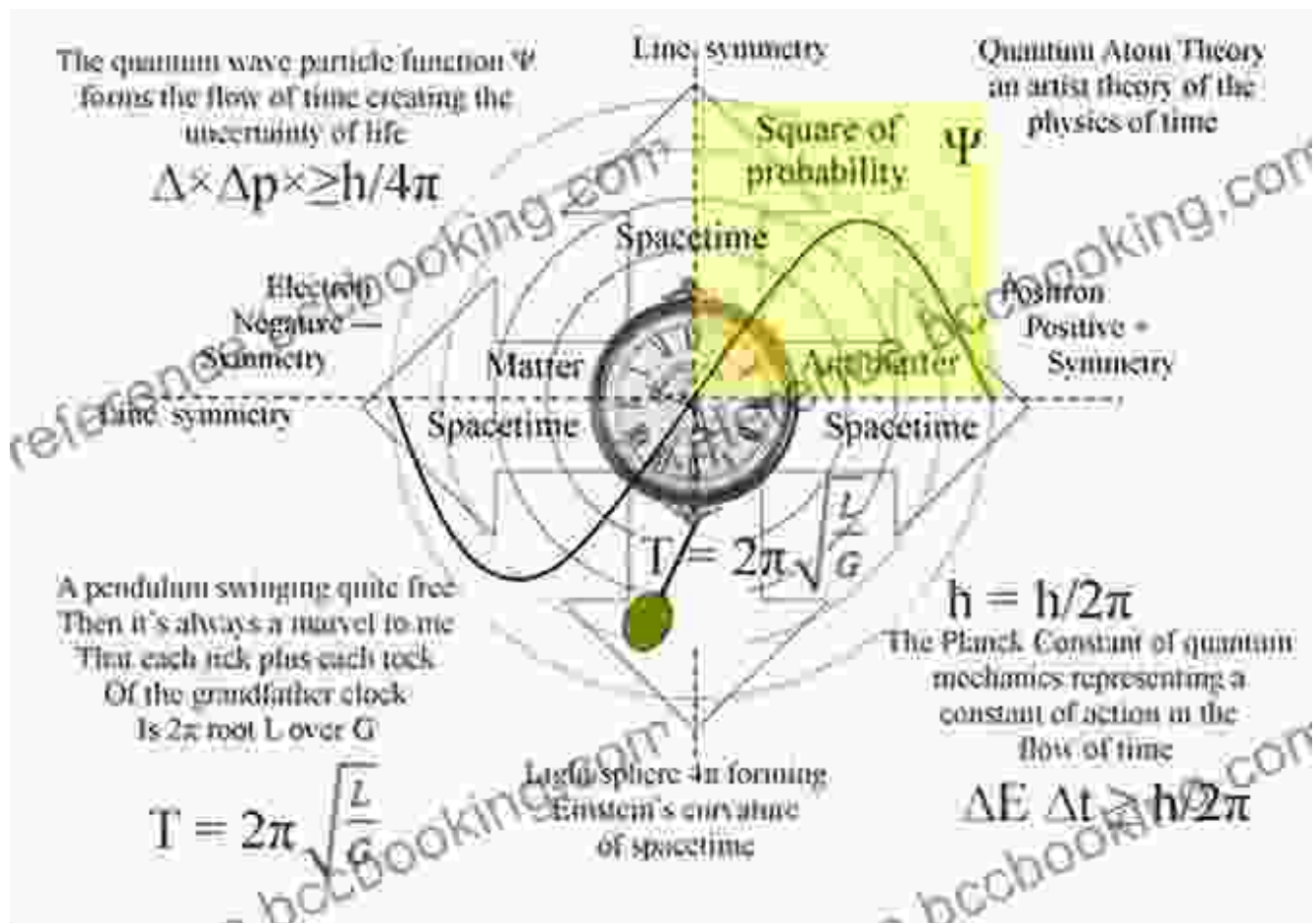
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The book meticulously introduces you to the fundamental principles governing the behavior of atoms. Explore the groundbreaking discoveries that shaped our understanding of atomic structure, including the groundbreaking work of Niels Bohr and the development of quantum mechanics.



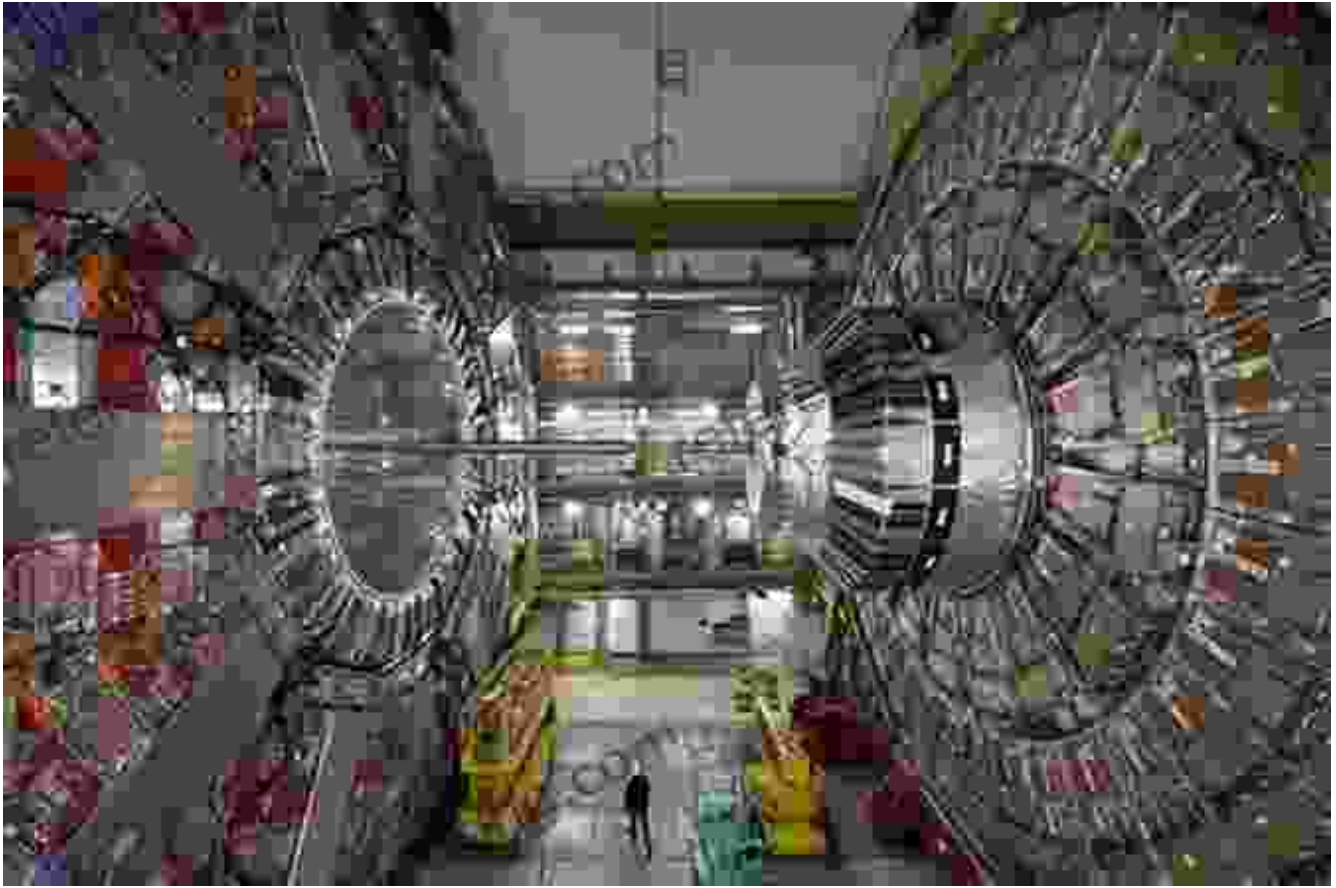
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Quantum mechanics holds the key to unlocking the enigmatic behavior of atoms. This book delves into the principles of quantum mechanics, guiding you through the concepts of wave-particle duality, superposition, and the uncertainty principle. Gain a deep understanding of the fundamental principles that govern the quantum realm.









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Venture into the realm of nuclear physics, where the fundamental forces that govern the nucleus are revealed. From the structure of the nucleus to the processes of nuclear reactions, this book provides an in-depth exploration of the fascinating world of nuclear physics.

Decay Type	Radiation Emitted	Generic Equation	Model
Alpha decay	$\frac{4}{2}\alpha$	${}^A_ZX \rightarrow {}^{A-4}_{Z-2}X + {}^4_2\alpha$	 Parent → Daughter + Alpha Particle
Beta decay	${}^0_{-1}\beta$	${}^A_ZX \rightarrow {}^A_{Z+1}X + {}^0_{-1}\beta$	 Parent → Daughter + Beta Particle
Positron emission	${}^0_{+1}\beta$	${}^A_ZX \rightarrow {}^A_{Z-1}X + {}^0_{+1}\beta$	 Parent → Daughter + Positron
Electron capture	X-rays	${}^A_ZX + {}^0_{-1}e \rightarrow {}^A_{Z-1}X + \gamma$	 Parent + Electron → Daughter + X-ray
Gamma emission	γ	${}^A_ZX \xrightarrow{\text{excitation}} {}^A_ZX + \gamma$	 Parent (excited nuclear state) → Daughter + Gamma ray
Spontaneous fission	Neutrons	${}^A_ZX \rightarrow {}^B_ZX + {}^C_ZX + C_0^1n$	 Parent (unstable) → Daughters + Neutrons + ENERGY

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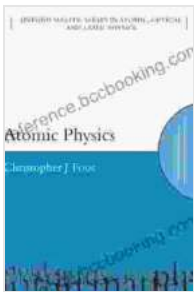
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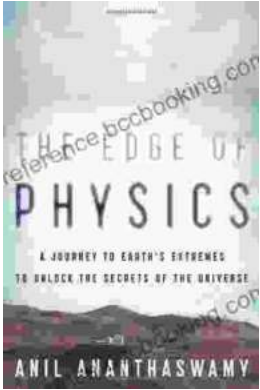
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