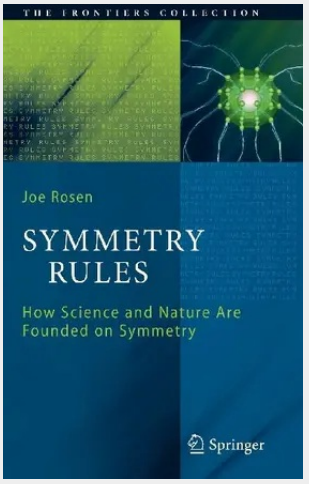
Rosen

Symmetry Rules

How Science and Nature Are Founded on Symmetry

Ernest Rutherford (New Zealand–British physicist, 1871–1937), the 1908 Nobel Laureate who discovered the existence of atomic nuclei, is famously quoted as having said: “Physics is the only real science. All the rest is butter?y collecting.” Or something to that e?ect. I like to include this quote in my introductory remarks at the ?rst class meetings of the physics courses I teach. I have seen that there are those whointerpret this as a put-down of amateurs (butter?y collectors) in science. However, my own interp- tation of Rutherford’s statement is that he is claiming that, except for physics, all of the rest of science is involved merely in collecting facts and classifying them (butter?y collecting). It is physics, uniqueamong the sciences, that is attempting to ?nd explanations for the classi?ed data. The periodic table of the chemical elements, originally proposed by DmitrilvanovichMendeleev(Russianchemist,1834–1907), presentsan example of this. Chemists toiled to discover the chemical elements and their properties and then classi?ed the elements in the scheme that is expressed by the periodic table. Here was the chemists’ butter?y collecting. It took physicists to explaintheperiodictablebymeansof quantum theory.

Ernest Rutherford (New Zealand-British physicist, 1871-1937), the 1908 Nobel Laureate who discovered the existence of atomic nuclei, is famously quoted as having said: "Physics is the only real science. All the rest is butter?y collecting." Or something to that e?ect. I like to include this quote in my introductory remarks at the ?rst class meetings of the physics courses I teach. I have seen that there are those whointerpret this as a put-down of amateurs (butter?y collectors) in science. However, my own interp- tation of Rutherford's statement is that he is claiming that, except for physics, all of the rest of science is involved merely in collecting facts and classifying them (butter?y collecting). It is physics, uniqueamong the sciences, that is attempting to ?nd explanations for the classi?ed data. The periodic table of the chemical elements, originally proposed by DmitrilvanovichMendeleev(Russianchemist,1834-1907), presentsan example of this. Chemists toiled to discover the chemical elements and their properties and then classi?ed the elements in the scheme that is expressed by the periodic table. Here was the chemists' butter?y collecting. It took physicists to explaintheperiodictablebymeansof quantum theory.



64,19 €
59,99 € (zzgl. MwSt.)

Lieferfrist: bis zu 10 Tage

Artikelnummer: 9783540759720
Medium: Buch
ISBN: 978-3-540-75972-0
Verlag: Springer
Erscheinungstermin: 04.03.2008
Sprache(n): Englisch
Auflage: 2008
Serie: The Frontiers Collection
Produktform: Gebunden
Gewicht: 647 g
Seiten: 305
Format (B x H): 160 x 241 mm

Kundenservice Verlag Dr. Otto Schmidt KG
Neumannstraße 10, 40235 Düsseldorf | kundenservice@otto-schmidt.de | 0221-93738-997 (Inland)