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Zusammenfassungen der letzten eingegangenen Arbeiten
Résumés des derniers articles reçus

Proton–Proton Streuung im Energiegebiet von 500 bis 2000 keV: Experimentelle Technik

von H. MÜHRY, H. WASSMER und E. BAUMGARTNER
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(30. IV. 73)

Abstract. A scattering chamber has been built in order to measure precise differential proton–proton cross-sections at energies between 500 and 2000 keV at three fixed angles of 12°, 25°, and 45° in the laboratory system. Effects which determine the shape and character of observed spectra and which affect the absolute value of the measured cross-sections are investigated experimentally. Methods of correction and values of the observed and calculated effects are presented.

On the Characterization of Bound States and Scattering States in Quantum Mechanics

by W. O. AMREIN and V. GEORGESCU
Department of Theoretical Physics, University of Geneva, Geneva, Switzerland

(1. V. 73)

Abstract. Ruelle's definition of bound states and scattering states in quantum mechanics in terms of the position operator is related to the usually accepted definition of these states in terms of the spectral properties of the Hamiltonian H, viz. the states belonging to the point spectrum or the continuous spectrum of H. The equivalence of the two ways of defining these states is established for a large class of n-body Hamiltonians ($n < \infty$) including practically all Schrödinger Hamiltonians of physical interest as well as Dirac Hamiltonians.

(n–γ) Directional Correlation in the Reaction ^{20}Ne(d, nγ)^{21}Na ($E^* = 330$ keV)

by R. HOFMANN, R. CORFU and J. ROSSEL
Institut de Physique, Université de Neuchâtel (Suisse)

(15. V. 73)

Abstract. Time-of-flight measurements of neutron–gamma directional correlation have been performed in two different geometric arrangements for the first excited 330 keV state of ^{21}Na. From the deduced multipole mixing parameter δ and the known life-time τ the characteristics of the low energy level can be determined and discussed. The assignment $5^+/2$ is established on the basis of the γ transition probability amounting to ~40 Weisskopf units. These results favour the nuclear model of collective rotational bands with Coriolis coupling for the low-lying levels of the 21 nucleon system.