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HELVETICA PHYSICA ACTA

Zusammenfassungen der letzten eingegangenen Arbeiten
Résumés des derniers articles reçus

Alpha-Spektroskopie mit Gitterionisationskammer

von H. VÖLKLE, L. RIBORDY, J. HALTER, O. HUBER und P. WINIGER

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(8. X. 73)

Abstract. To detect α -emitting nuclides in environmental samples, a measuring system was built with a grid ionization chamber. Through optimal design of chamber and associated electronics a good resolution of 35.5 keV f.w.h.m. for a Po-210 electro-deposited source, with very low background (7.2 counts/h in the interval from 4 to 6 MeV) was achieved. This allows us to determine Pu-239 activities of a few pCi/g mineralized substance. For measuring the α -spectrum, 20 to 30 mg mineralized sample material is deposited on the source-holder by evaporation of an adequate solvent. If necessary, Pu or U are chemically separated from the solution (with TiOA or TTA) and measured separately.

Quelques Paramètres Importants des Milieux Multiplicateurs de Neutrons Selon le Modèle Binodal

par A. S. TAI

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(2. XI. 73)

Abstract. Considering a neutron multiplication medium of two zones as one system composed of two point cores between which exists a coupling (the binodal model), we have established the relations for some important parameters of the system, such as multiplication coefficient, reactivity, effective delayed neutron fraction, neutron life-time. The expressions giving the time evolution of the system in the presence of pulsed neutron sources are also derived.

The Connections between the Schrödinger Group and the Conformal Group

by U. NIEDERER

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(5. XI. 73)

Abstract. The Schrödinger group is generalized to the maximal set of coordinate transformations which leave invariant the Schrödinger equation up to the mass. These generalized Schrödinger transformations do not form a group but contain the Schrödinger group as a subset. It is shown that the nonrelativistic limit of the conformal group, which is interpreted as the maximal invariance group up to the mass of the massive Klein-Gordon equation, is a subset of the generalized Schrödinger transformations which, when modified by additional transformations, contains the Schrödinger group.