

Bookshelf

Perspectives of meson science,
T. Yamazaki, K. Nakai and
K. Nagamine, Eds., Elsevier,
ISBN 0444895558

Unstable particles such as mesons and muons are now used in various domains of physics, chemistry, engineering, and life sciences. This book covers current applications and future perspectives from a very broad viewpoint, with 27 invited contributions from fields such as muon and muonium spin rotation, muon hyperfine interactions, muon catalyzed fusion, medical diagnostics, exotic atoms, mesons in nuclei, and exotic decays of mesons.

The examples are mainly drawn from work carried out at KEK in Japan and at TRIUMF in Vancouver under Japanese research grants, although major references are also made to results from Brookhaven, CERN, Los Alamos and PSI (Switzerland).

The book is, in a way, complementary with "The Meson Factories"

(T. Ericsson, V. Hughes and D. Nagle, Eds.) published recently by the University of California Press, which summarizes research in the meson factories.

Magnetism, superconductivity, diffusion of hydrogenlike impurities, and muonium chemistry, using positive muons stopped in solids, are the subjects of the first ten papers. Here spin rotation offers a unique tool, and the results have led to substantial theoretical work, deepening our understanding of condensed matter.

Two papers describe progress in muon catalyzed fusion. Although breakeven in energy production seems still remote, other applications are proposed in intense sources of 14 MeV neutrons for isotope production, and in sources of slow negative muons which could open new fields of meson science.

Advanced muon beam production is the topic of a fine paper by Nagamine and Ishida. They discuss many new ideas, including ultraslow muon beam production using re-emission

from material surfaces (already used to produce bright positron beams), or beam cooling, familiar from electron and antiproton synchrotrons.

What happens when a negatively charged hadron or muon is stopped in condensed matter? This familiar question is debated in three papers dealing mainly with exotic atoms and other low-energy muon and hadron physics.

Hypernuclear spectroscopy and other hadron-induced nuclear phenomena are covered in the remaining ten papers. The physics covers many aspects of modern nuclear and particle physics, including meson production and other relativistic heavy ion topics.

In his review "Low-energy muon science" J.H. Brewer claims "Muon science is one of the most dramatic interdisciplinary scientific legacies of the 20th century...". The reader of this book will quickly agree.

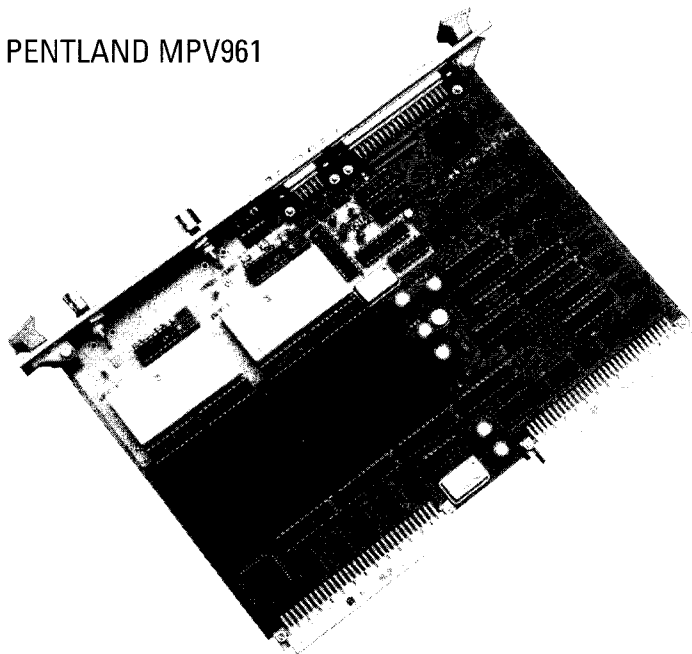
By Tapio Niinikoski



Tapio Niinikoski addresses the recent 10th International Symposium on High Energy Spin Physics in Nagoya, Japan.

The easy access to VME

PENTLAND MPV961



25 million samples per second 12-bit analog input card.

VMEI

MOTOROLA
Computer Systems
Blanket Purchase Order B1007 / CN

PENTLAND
SYSTEMS LTD.
Blanket Purchase Order B1008 / CN

PCP
Modular Computers®
Blanket Purchase Order B1009 / CN

OmniRay

Your VME-Partner
Omni Ray AG, Industriestrasse 31, CH-8305 Dietlikon/Zürich
Phone 01-835 21 11, Fax 01-833 50 81

58 Circle advertisement number on reader service form

DATARAM

MEMORIES for
DEC - HP/APOLLO - SUN
IBM6000 - Silicon Graphics

LIFETIME GUARANTEE
FREE TRIAL PERIOD
FAST DELIVERY
EXPRESS HOT SPARE
SUPERIOR PERFORMANCES

TAKE BENEFITS OF THE SPECIAL CERN'S CONDITIONS :
Delivery directly from DATARAM USA to CERN site by speed
post, exonerated from all taxes (icha) and duties.

Inter Access OFFICIAL DATARAM DISTRIBUTOR

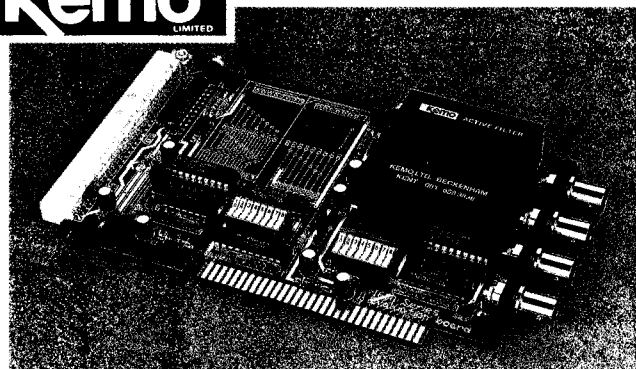
IAS Inter Access SA 4, av. de Champel CH-1206 Geneva
Tél: 022 346 04 40 Fax: 022 346 05 56

All references are trademarks of their respective manufacturers

16 Circle advertisement number on reader service form

High Accuracy Digitally Set Active Filters 135 dB/Octave

Kemo®
LIMITED



1600 Series

Small size, 8 bit word control, cutoff 2Hz to 51kHz (three moduals), wide dynamic range (typically < 0.006% THN+N). PC (and other busses) compatible carrier cards available.

Consult KEMO for all your fixed and variable filter applications.

1 Channel to 256 Channels, Attenuation up to 135 Db/octave, Frequency range 0.001Hz - 1MHz, Moduals or Systems, Computer and/or control, Customer defined OEM applications welcomed.

Extensive range of filter application notes available on request together with highly defined responce parameters. ® Registered Trade Mark.

**Kemo Ltd., 12 Goodwood Parade, Elmers End,
Beckenham, Kent BR3 3QZ. Tel: 081 658 3838.
Fax: 081 658 4084. Telex: 895189 Kemo G.**

56 Circle advertisement number on reader service form