

CONTENTS

Preface
 Schedule of talks

ATOMIC BEAM SOURCES

Status and developments with atomic beam sources	
W. Gruebler	1
Status of the AGS polarized negative ion source	
Th. Sluyters, J. Alessi and A. Kponou	25
A ring magnetron ionizer for polarized negative ion sources	
J.G. Alessi, Th. Sluyters and A. Hershcovitch	32
RCNP polarized ion source	
K. Hatanaka	37
The gas temperature dependence of the figure of merit for	
the conventional ground state source	
H. Hasuyama, Y. Wakuta, S. Yokobayashi and A. Ueno	41
An optimization method of atomic beam polarized ion source	
Y. Wakuta, H. Hasuyama, S. Yokobayashi and A. Ueno	45
Rapporteur's report, Sessions I and II	
P.A. Schmelzbach	51
Rapporteur's report, Sessions III and IV	
R. Raymond	53
Rapporteur's report, Session V	
S. Jaccard	55
Summary for atomic beam sources	
W. Gruebler and P.A. Schmelzbach	57

LAMB-SHIFT SOURCES

Lamb-shift sources - hopes and realities	
T.B. Clegg	63
The new Münich polarized ion source	
P. Schiemenz	78
Developing a 500 eV proton beam	
E.P. Chamberlin, J.F. Benage, Jr. and H.E. Williams	82
An ECR-technique to intensify polarized beams in the	
Karlsruhe Lamb-shift source LASKA	
V. Bechtold and L. Friedrich	94
Rapporteur's report, Sessions I and II	
G. Roy	99
Rapporteur's report, Sessions III and IV	
M.S. de Jong	101
Summary for Lamb-shift sources	
T.B. Clegg	103

OPTICALLY PUMPED SOURCES

Spin exchange optical pumping to produce large amounts	
of polarized nuclei	
W. Happer, E. Miron, R. Knize and J. Cecchi	114

OPTICALLY PUMPED SOURCES (cont'd)

Optically pumped polarized H ⁻ ion source at KEK Y. Mori, K. Ikegami, Z. Igarashi, A. Takagi and S. Fukumoto	123
The polarization of an atomic Na beam by laser optical pumping L.W. Anderson and J.T. Cusma	133
Rapporteur's report, Working Group Sessions I and II W. Happer	137

COLD ATOMIC SOURCES

H ⁺ atomic beam source: A feasibility study T.O. Niinikowski, S. Penttilä, J.-M. Rieubland and A. Rijllart	139
Nuclear polarization of ³ He gas at and below 4.2 K by room temperature laser optical pumping S.B. Crampton, P.J. Nacher, M. Leduc and F. Laloë	153
Rapporteur's report, Working Group Sessions I and II W. Hardy	157
Rapporteur's report, Working Group Sessions III and IV S. Crampton	160

ECR SOURCES

ECR sources for single and multiply charged ion production R. Geller, B. Jacquot and C. Jacquot.....	162
---	-----

CHARGE-TRANSFER PROCESSES

Charge-transfer collisions for polarized ion sources A.S. Schlachter	180
Rapporteur's report, Working Group Session I J.G. Alessi	206
List of participants	208