



LINEAR COLLIDER COLLABORATION

Designing the world's next great particle accelerator

Posipol 2014 Summary

M. Kuriki and W. Gai

Posipol2014, Ichinoseki, Iwate, 2014/8/27-29



Posipol 2014

Electron/FEL/other : 3

Undulator : 7

Laser Compton/X-ray: 7

Conventional/KEKB : 12



9th International Workshop on Polarized Positrons, Gamma-rays and X-rays

POSIPOL 2014

27-29 AUGUST 2014,
ICHINOSEKI CITY, IWATE, JAPAN

Conference topics

- Generation of polarized positron beams
- High intensity positron sources
- Positron generation target issues
- Physics applications of polarized positrons
- Polarised gamma-ray and X-ray generation
- Channelling radiation and applications
- Physics applications of high quality X-rays and gamma-rays

International Program Committee

J. Bailey — Lancaster Univ.
R. Buljak — SLAC
R. Chistak — FN Lyon & LAL
S. Doherty — CERN
W. Gu — ANL
J. Gu — DESY
J. Gronberg — LLNL
M. Kuriki — Hiroshima Univ.
G. Mourou-Pek — Hamburg Univ./ DESY
S. Naito — Iwate Univ.
T. Otsu — KEK
S. Riemann — DESY
L. Rivoldi — CERN
P. Staudenrod — DESY
T. Takahashi — Hiroshima Univ.
J. Urakawa — KEK
A. Ushakov — Hamburg Univ./ DESY
K. Yokoyama — KEK
A. Voss — LAL
P. Zimmermann — CERN
F. Zomer — LAL

Local Organizing Committee

S. Araki — KEK
H. Chiba — Iwate Univ.
K. Ikeda — KEK
S. Naito — Iwate Univ. (Co-Chair)
R. Otsu — KEK (Co-Chair)



Recommendation

Ferrofluid sealed and water cooled

Recommendation with the highest priority.

- a) Resume the water-cooled ferro-fluid sealed target test with modifications. (1M USD, 2014-2015)**
 - b) If (a) is successful, we construct the target equivalent to the real machine. (3 M USD, 2015-2017)**
 - c) Endurance test of the target (2017)**
-



Recommendation

Non-water cooled

- a) Investigate several critical aspects to establish the conceptual design of the non-water cooled target. (2014-2015)**
 - b) Some basic tests, e.g. friction with lubricant, material dilution, out gas rate, etc. if it is possible with a limited amount of money. (2014-2015)**
 - c) If (a) and (b) are successful, a mock-up is constructed (3.1 M Euro + 5.5 Man.year) which is compatible to examine radiation cooling and contact cooling. (2 years)**
-



Recommendation

300kHz electron driven

- a) It is desirable to have a technical backup from a project point of view.**
 - b) Finish the target prototyping and endurance test. (2014-2016)**
 - c) Complete TDR level design (2015).**
 - a) Fix the lattice, components with cost estimation. TDR cost estimation can be reused.
 - d) Establish engineering design (2016-2017)**
-



LINEAR COLLIDER COLLABORATION

Designing the world's next great particle accelerator