

## E391a T. Inagaki Measurement of the $K_L \rightarrow \pi^0 \nu \bar{\nu}$ Decay

Submitted	1996.6.7
Approved	2001.7.11
Beam line	K0
Shift requested	300 + 100 extension + 100 extension
Shift executed	269 preparation + 230 data acquisition + 259 extension
Executed cycles	(00[1,2-3,6], 01[4-1,4-2], 02[3-1,4-2,4-2]), 03[6-1,6-2], 04[1,2,5-1,5-2,5-3], 05[1,4-2]

### Papers and activities

[Legend]

- Physics papers published in refereed journal
  - Technical papers
  - ★ PhD theses
  - ◇ Conference and Symposium
  - \* Internal Report and others
- 
- J. K. Ahn et al.  
New limit on the  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  decay rate  
Phys. Rev. D74 051105(R) (2006)
  - J. Nix et al.  
First Search for the  $K_L^0 \rightarrow \pi^0 \pi^0 \nu \bar{\nu}$   
Phys. Rev. D76 011101 (2007)
  - J. K. Ahn et al.  
Search for the Decay  $K_L^0 \rightarrow \pi^0 \pi^0 \nu \bar{\nu}$   
arXiv:0712.4164 (2007)
  - T. Inagaki et al.  
Development of CeF-3 crystal for high-energy electromagnetic calorimetry  
Nucl. Inst. Meth. A 443, (2000) 126.
  - H. Watanabe et al.  
Scintillator-Lucite sandwich detector for n/ $\gamma$  separation in GeV energy region  
Nucl. Inst. Meth. A 484, (2002) 118.
  - M. Itaya et al.  
Development of a new photomultiplier tube with high sensitivity for a wavelength-shifter fiber readout  
Nucl. Inst. and Meth., A522, (2004) 477.
  - H. Watanabe et al.  
Neutral beam line to study  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  decay at the KEK 12-GeV proton synchrotron  
Nucl. Inst. and Meth., A545, (2005) 542.
  - M. Doroshenko et al.  
Undoped-CsI calorimeter for the  $K_L^0 \rightarrow \pi^0 \nu \bar{\nu}$  experiment at KEK-PS  
Nucl. Inst. and Meth., A545, (2005) 278.
  - S. Ajimura et al.  
Measurement of the photon detection inefficiency of electromagnetic calorimeters at energies below 1-GeV  
Nucl. Inst. and Meth., A552, (2005) 263.
  - ★ H. Watanabe  
K0 beam line for the study of the  $K_L \rightarrow \pi^0 \nu \bar{\nu}$  decay  
Saga University 2001.

- 
- Physics papers published in refereed journal.
  - Technical papers.
  - ★ PhD theses.
  - ◇ Conference and Symposium.
  - \* Internal Report and others.

- ★ M. Dorochenko  
A measurement of  $K_L \rightarrow \pi\nu\nu$   
The Graduate University for Advanced Studies, March 2005
- ◇ K. Abe et al.  
Status of the  $K_L^0 \rightarrow \pi^0\nu\nu$ -bar experiment at KEK (E391a)  
30th International Conference on High-Energy Physics (ICHEP 2000), Osaka, Japan, 27 Jul - 2 Aug 2000, KEK-PREPRINT-2000-89, 12pp.
- ◇ H. Watanabe et al.  
A study of the separation of neutron from gamma up to 12-GeV  
Kaon Decay Workshop for Young Physicists, Tsukuba, Japan, 14-16 Feb 2001.  
Published in \*Tsukuba 2001, Kaon decay physics\* 299-312
- ◇ M. Yamaga et al.  
 $K_L \rightarrow \pi^0\nu\nu$ -bar experiment at KEK 12-GeV PS, E391a  
Nucl. Phys. A721 (2003) 449c.
- ◇ Y. Sugaya et al.  
DAQ system for the  $K_L \rightarrow \pi^0\nu\nu$ -bar search at KEK-PS  
Proc. of 13th IEEE-NPSS Real Time Conference 2003, RT-034.
- ◇ T. Inagaki  
The first Experiment for  $K_L \rightarrow \pi\nu\nu$  Decay  
SUSY04, Tsukuba, June 17-23, 2004
- ◇ G.Y.Lim  
Status of E391a  
ICHEP2004, Beijing, August 16-22, 2004
- \* K. Abe et al.  
Status of the  $K_L \rightarrow \pi^0\nu\nu$ -bar Experiment at KEK (E391a)  
KEK Preprint 2000-89 (2000).
- \* T. Inagaki  
Status of the  $K_L \rightarrow \pi^0\nu\nu$ -bar Experiment (KEK-E391a), Report on the engineering run  
HE News Vol21, No3 (2003) (in Japanese).
- \* T. Inagaki et al.  
Status of the  $K_L \rightarrow \pi^0\nu\nu$ -bar Experiment (KEK-E391a), Report on the detector construction  
HE News Vol23, No1 (2004), (to be published in Japanese).

---

● Physics papers published in refereed journal.  
○ Technical papers.  
★ PhD theses.  
◇ Conference and Symposium.  
\* Internal Report and others.