

The 21 Century COE Project
Exploring New Science by Bridging Particle-Matter Hierarchy

Short-term Foreign Researchers

Research Report

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Host Researcher in Tohoku University: Atsuto Suzuki

Your Stay Period in Japan: From Dec 30 2003 to Jan 13 2004

Title of Research in Japan: Kamland Shift duties

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Please write a research report of one or more pages and submit it with this cover to your host researcher till the end of this March.

Tohoku COE project travel fund Visit:

I visited KamLAND from December 31 2003 to January 10 2004

As a member of the KamLAND collaboration, I must periodically perform shift duties (usually for about a week), and participate in the calibration of the detector. My shift was 2nd shift from December 31 2003 to January 7 2004. I was not involved in any calibration work during this visit. Also, during this trip I attended the JPARC collaboration meeting in Tokyo on January 11 and January 12 2004.

Shift duties:

The 2nd shifter performs shift duties in the KamLAND Mozumi office located outside the mine. Shift runs from 4pm to midnight every day for eight days. 2nd shift duties include copying data to tape to be sent to Sendai and the US and running system checks.

In addition to running periodic checks on the High Voltage units, and data acquisition system, other checks must be done on the computer systems, temperature in the mine, oxygen levels, balloon weight etc. If problems develop the shifter must do some initial troubleshooting and if possible find out what is wrong. If the shifter cannot find the problem, he/she must call an expert (for that equipment) for help. If the problem requires someone to enter the mine, the 2nd shifter must call the Japanese speaking 1st shifter, who will enter the mine and fix the problem.

Problems with the detector during shift:

My shift was remarkably problem free. However on one occasion a computer crashed and had to be rebooted in the mine. Otherwise shift went well and livetime was close to 100%.

JPARC Meeting:

At the JPARC collaboration meeting we learnt that the project has been funded by the Japanese Government. I joined a group that will undertake simulation studies of various elements of the Beam-line and near detector.

I would like to thank the Tohoku COE project travel fund for funding my trip to Japan and allowing me to undertake my duties.