

§3. Environmental Radiation Measurements in Toki Area

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Environmental radiation monitoring has been made to investigate radiological distribution and characteristics with time elapse under natural conditions. To clarify the regional radiological characteristics means to study environmental dynamics from the viewpoint of geological effects to the local area according to operation of LHD and other X-ray generating devices in the Toki Site of NIFS. This study started as collaboration with Plasma Research Committee of Toki-City. It is significant to collaborate with science teachers of schools in and around Toki City from viewpoint of education and public acceptance for research activities of NIFS. In the present report, results of environmental radiation monitoring and some activities of the committee are mentioned. Environmental radiation monitoring methods and results are as follows.

TLD (thermo-luminescence dosimeter) sensors (CaSO₄:Tm, UD-200S made by Matsushita Electric Co.) were set at 16 points in Toki and Tajimi area in every 3 months, specifically speaking that they are exchanged on the each first Saturday of June, September, December and March. The environmental radiation exposure rates are distributing in 50-150 mR/y, almost equal to 0.5-1.5 mSv/y. There is not a noticeable fluctuation of the dose level at the same point. Major dose level seems to depend on the geological condition. For example, high dose level is observed at the granite layer cropped out place.

The members of the committee studied about

fundamental characteristics of radiation and various radiation properties based on the routine environmental radiation monitoring and discussion. Except of the precedent meeting, special event was planned in summer, then we visited to the Hamaoka Nuclar Exhibition Center and the newest power plant under construction (Unit No.5). It might be useful to understand the latest technologies for safety operations and managements.

The members also visited to the Environmental Radiation Observation Center of Shizuoka Prefecture. The center observes the influences of the nuclear power plants operation on a environmental radiation as well as radioactivity accumulation in various foods. It might be helpful to understand the various technologies for these observations.

Other activities of the committee are summarized as follows.

- (1) Read the reference book* about radiation and radio isotope by turns in every meeting
*Easy Radiation and Isotope, third edition (Japan Isotope Assoc.)
- (2) Presentation of NIFS recent activities using LHD
- (3) Some teachers reported practically performing education in school and researches discussed about the affectivity.

These activities of the Plasma Research Committee is expected to be applied for the science education in primary schools, junior high schools and high schools.

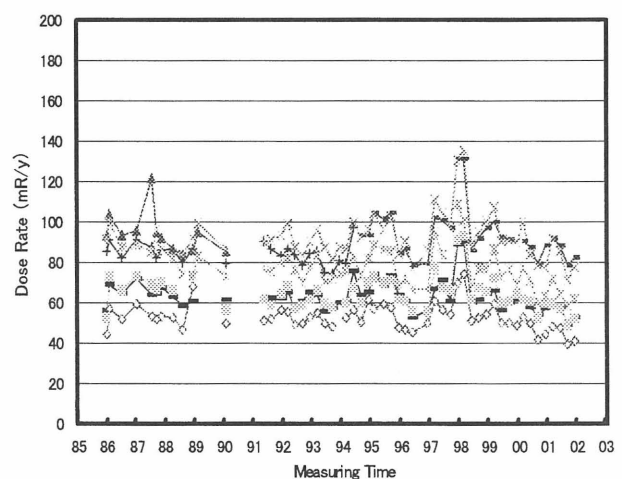


Fig.1 Example of monitoring data in Toki area