

## The practice of personal monitoring service by glass badge dosimetry system in Japan

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### Abstract

The radiophoto-luminescence (RPL) glass dosimeter – using silver-activated phosphate glass – is the integrated-type passive dosimeter that has essentially excellent characteristics such as stability of sensitivity and repeatability of measurement for radiation dosimetry. The glass badge (GB) was developed as the latest personal dosimeter which applied this RPL glass dosimeter and solid state nuclear track detector. In 2001, this GB has been introduced as the major personal dosimeter for personal monitoring service in Japan.

To measure the photon dose in the energy range of 10keV to 10MeV and the beta-ray dose in the energy range of 300keV to 3MeV, newly developed RPL glass dosimeter GD-450 has two of different thickness plastic filters and three metal filters of Al, Cu and Sn. When the neutron dose measurement is required, GB furthermore enables to measure the neutron dose in the wide energy range of thermal to 15MeV by adding the ADC (allyl di-glycol carbonate) plastic solid state nuclear track (SSNT) dosimeter with the converter of BN and polyethylene (called as wide range NeuPit : WNP).

In this presentation, the basic design concept of GB dosimetry system, characteristics and outline of monitoring service systems will be presented.