

## **Performance of New Tritium Calorimeter in TPL/JAEA**

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Calorimetric method is one of the important methods for tritium accountancy. It is very useful measurement for rather smaller size sample with larger decay heat. Recently, a tritium calorimeter has been used in TPL/JAEA, which improved Isotope Nano Calorimeter: INC-7200 made by Tokyo Riko Co. Ltd. with Toyama University. The main improvement points are larger size of heat detective cell (52f x 30mm) and digital voltmeter of KEITHLEY 2128A. Design sensitivity and minimum detective heat are  $0.4\mu\text{V}/\mu\text{W}$  and  $20\text{nW}$ , respectively, which are same of the original model. These performances have been demonstrated with standardized liquid tritium sources, which are calibrated by liquid scintillation counter. As one of the important tritium accounting tools, this calorimeter will be used at a new tritium handling facility in Rokkasho site of JAEA under Broader Approach activity, where can handle 7.4 TBq of tritium per day.

This paper summarizes the above performance of a tritium calorimeter in TPL/JAEA and discusses further improvement for tritium accountancy.