

## **Four years dynamics (2013-2016) of tritium in environmental water at Fukushima evacuation zone**

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The variation of the radioactivity of <sup>3</sup>H has been observed in a flowing-well and sump water collected at Ottozawa district, Okuma town near Fukushima Dai-ichi Nuclear Power Plant from 2013 to 2016. The flowing-well and sump were located 500 m and 40 m from the plant boundary.

<sup>3</sup>He in-growth mass spectrometry and liquid scintillation counter (LSC) were used to determine <sup>3</sup>H in samples. Filtered water was used for the mass spectrometer. In the case of LSC, the organic matters were decomposed by using KMnO<sub>4</sub> and Na<sub>2</sub>O and then distilled to remove other nuclides.

Although the severe contamination was not detected in water of flowing-well, <sup>3</sup>H was continuously observed in the range of 15-22 Bq/kg in sump water during study period. As of September 2016, flow rate of sump water had been decreased from 300 mL/min to 4.2 mL/min, however, no change in the radioactivity was confirmed. Several countermeasures against contaminated water such as surface facing and pump-up from the sub-drain inside the Fukushima site were suggested to be effective for reducing the amount of leakage to the outside of the site. However, it is suggested that the groundwater, which had contacted with the pollution source inside the power station, has been continued to flow out. At the time of presentation, we will also show the results after 2016.