

## Measurement of Dust Quantity and Distribution Collected from JT-60U

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Understanding of the dust distribution as well as transport is of a very important to predict the tritium retention in fusion reactors, because the dust generated in the process of erosion/ deposition/ agglomerating on the PFC surface may contain tritium, particularly in carbon dust. The purpose of this paper is to present quantitative distribution by means of measurement of weigh of carbon dust collected from JT-60U.

The dust was collected by vacuuming a part of the machine with a filter and a pump. Dust was collected at 5 and 2 positions in the divertor and the main chamber regions, respectively, covering approximately 1/10 of the machine surface. In addition to plasma facing areas, underneath the plasma facing tiles, divertors and baffle plates were also investigated.

The dust collections were carried out by a membrane filter which is a polymer film with pores of 0.1  $\mu\text{m}$ . There are two kinds of sizes of filter, one is 25 mm and the other is 47 mm in diameter. In order to quantitatively analyze the dust, the weight of the filter was measured by an analytical balance, whose readability is 0.01 mg.

In the primary results, large quantities of dust were collected from underneath the outer dome wing and underneath the outer pumping slot of the W-shaped divertor. The detailed distribution of dust collected from JT-60U will be reported at conference after the detailed analysis.