

SPACE LIFE SCIENCES SYMPOSIUM (A1)  
Poster Session (P)

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STUDY ON THE CHANGE CHARACTERISTICS OF THE TRACE ORGANIC CONTAMINANT IN  
THE 2-MEN AND 30-DAYS CELSS EXPERIMENT**Abstract**

Abstract: An integrated 'men-plant' experiment was carried out using the CELSS Compositive Experimental Platform (CCEP), from November 1, 2012 to December 1, 2012. In the experiments, air samples were collected from crew chamber and plant chamber regularly, and detected the varieties and the content of the trace organic contaminants. Before the experiment, a test with only 2 men, no plant, was carried out. Similarly, the air samples were collected and detected. By comparing the results of the integrated 'men-plant' experiment with the only men, no plant experiment, the capacities of cleansing the trace contaminants of the CCEP Harmful Air Cleansed System and the plant were evaluated. The results showed: the Harmful Air Cleansed System worked efficiently, for the content and the varieties of the trace organic contaminants in the chambers during the two experiments were obviously lower than the provisions of the space station. In the integrated 'men-plant' experiment, the content of the trace organic contaminants like ammoniamethanaethanol ethylbenzene were much lower. So the plants can improve the air quality further. However, some organic matters like ethyleneethanol released by plant in growth process, even though harmless to people, will speed up plant senescence and need to be cleared away in later airtight cabin plant cultivation experiments.

Key words: the controlled ecological life support system (CELSS), 'men-plant' Integrated experiment, trace organic contaminant, Purification