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Abstract

Li_4TiO_4 ceramics pebbles have been proposed to be a promising tritium breeder materials for the fusion reactor blanket of the International Thermonuclear Experimental Reactor (ITER). In the present study, the hydrothermal method was first used to synthesize the nanostructured precursor powders for fabricating the Li_4TiO_4 ceramic pebbles. The precursor powders were composed of LiOH, Li_2CO_3 and Li_2TiO_3 with a grain size of 30-80 nm. Moreover, the microstructure and phase evolution of Li_4TiO_4 ceramics pebbles were investigated. The results indicated that the formation temperature of Li_4TiO_4 by hydrothermal method was lower than that of

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