

Synchrotron Characterization of Self-Propagating High-Temperature Synthesis of TiC-TiB₂

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Fine powder of TiC/TiB₂ has been synthesized through self-propagating high-temperature synthesis (SHS). Synchrotron time resolved X-ray diffraction was used to investigate the structural evolutions, during the SHS reaction and to evaluate the mechanism of formation of TiC/TiB₂ *in situ*. The reaction time for the synthesis is of the order of 1-4 s.