**Effect of Concentrated Light on Mixture of Boron and Aluminum Powders Transformation**

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**Abstract**

Transformation of boron powders and 25 wt. % aluminum powdered additive was considered. Heating initial powders was carried out in a xenon high-flux optical furnace in a nitrogen flow at the temperatures 1000-1400 0C. It was demonstrated that addition of aluminum results in formation of amorphized BN and AlB12 (Fig. 1). Presence of AlB12 changes FTIR and Raman spectra of BN in the obtained composite nanostructures.

Fig. 1. XRD pattern of the obtained composite showing the peaks corresponding to a mixture of amorphized BN and AlB12 particles.

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| a | b |
| Fig. 2 FTIR (a) and Raman (b) spectra of composite powders corresponding to a mixture of amorphized BN and AlB12 particles. |