Fabrication of Cesium Iodide Columns by Rapid Heating Method

Authors : Chien-Wan Hun, Shao-Fu Chang, Chien-Chon Chen, Ker-Jer Huang

Abstract : This study presents how to use a high-efficiency process for producing cesium iodide (CsI) crystal columns by rapid heating method. In the past, the heating rate of the resistance wire heating furnace was relatively slow and excessive iodine and CsI vapors were therefore generated during heating. Because much iodine and CsI vapors are produced during heating process, the composition of CsI crystal columns is not correct. In order to enhance the heating rate, making CsI material in the heating process can quickly reach the melting point temperature. This study replaced the traditional type of external resistance heating furnace with halogen-type quartz heater, and then, CsI material can quickly reach the melting point. Eventually, CsI melt can solidify in the anodic aluminum template forming CsI crystal columns.

Keywords : cesium iodide, high efficiency, vapor, rapid heating, crystal column

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