

研究简报

铝酸盐结构对阴极性能影响的初步探讨

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摘要

用XRD技术对浸渍Ba-W阴极所用的铝酸盐(6BaO:CaO:2Al₂O₃)结构进行了分析。结果表明俄罗斯和国内某单位的铝酸盐峰位较复杂, 结构不单一。该文作者用新的配方, 新的烧结方式生成了主峰为Ba₅CaAl₄O₁₂的结构单一的铝酸盐, 且烧结温度比传统烧结温度低200℃, 单一结构的铝酸盐具有浸渍温度低、发射较好、性能稳定、蒸发少等特点, 从而可望改善Ba-W阴极的性能。

关键词 [伦琴射线技术\(XRD\)](#) [铝酸盐](#) [浸渍温度](#) [发射电流](#)

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Study on the influence of aluminates structure on cathode characteristics

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Abstract

The structure of aluminates which are used for Ba-W cathode is analyzed by XRD technology. It has been shown that the aluminates produced by some companies in Russian and our country are very complicated. The main single structure (Ba₅CaAl₄O₁₂) of the aluminates has been formed by a new firing technology and new prescription. Its firing temperature; is 200° C lower than that of conventional method. The melting point of the aluminates is lower than that of the conventional one. The cathode impregnated with the new aluminateH has high and stable emission current and low evaporation, which can improve the characteristics of Ba-W cathode.

Key words [XRD](#) [Aluminates](#) [Impregnating temperature](#) [Emission current](#)

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