

# Study of High-Temperature Chamber-Type Electric Resistance Furnace and Attainment of Uniform Temperature Field

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*Abstract*— This paper presents an analysis of the temperature field distribution in the workspace of a high-temperature chamber-type electric resistance furnace operating on silit heaters. A methodology is suggested how to implement a system of events ensuring the attainment of uniform distribution of the temperature field in the chamber. The methodology is based on numerical models and experimental studies to whose results the furnace controls are adjusted. Experimental studies were conducted under specific technological conditions, which confirmed the correctness of the methodology. The aim was to solve a major technological problem in the exploitation of similar facilities: the uneven field in the chamber due to some of its constructional specifics and the silit heaters aging.