

High Temperature Solid Oxide Cells

Laboratory of Non-conventional Energy Sources, Department of Environmental Engineering, Democritus University of Thrace

The research of the Laboratory of Non-conventional Energy Sources of Department of Environmental Engineering, Democritus University of Thrace, includes the preparation the operation of solid oxide, oxygen anions conducting cells, at high temperatures. The accuracy and the stability of both the preparation (up to 1500 °C) and the operation (up to above 800 °C) temperatures is a crucial factor. In 2013, we co-operated with the THERMANSYS team in order to design and construct a tailored high temperature furnace, able to regularly operate at temperatures as high as 1500 °C. The furnace can be programmed so as to accurately follow multistep temperature patterns, through a windows like interface, with upgradeable THERMANSYS software. Since then, the high temperature Thermansys furnace has been proven of absolute reliability, under demanding conditions, and the collaboration with the THERMANSYS team was excellent.



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