A LINEAR EDDY MODEL SIMULATION OF A GAS TURBINE ROUND TURBULENT EXHAUST JET VALIDATED BY EXPERIMENTAL MEASUREMENTS

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ABSTRACT

The work presented here has been carried on at the National Research and Development Institute for Gas Turbines – COMOTI, Bucharest, as part of a National Research program aimed at the conversion of aviation and industrial gas turbines for agricultural applications. The paper presents a Linear – Eddy – Model based on numerical simulation of the round turbulent exhaust jet of a Garrett 30 – 67 gas turbine. Experimental measurements of the jet gas composition and of the jet temperature, using a gas analyzer model VARIOPLUS INDUSTRIAL, have also been conducted, and are included in the paper, in order to ensure the numerical algorithm validation. The numerical results are analyzed with respect to the future utilization as carrier phase for active substances in agricultural applications

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