

## Aerothermal Analysis of an Aeroengine Annular Combustor Concept with Angular Air Supply

Modern combustion systems must ensure an efficient and stable operation with low emission of air pollutants over a wide range of conditions to meet the regulatory requirements for their application in propulsion and power generation. Novel combustor concepts, which can provide major aerothermal and structural advantages are, therefore, of particular interest in energy technology. In the present study, an innovative annular aeroengine combustor concept is investigated. The main feature of this combustor is the staggered arrangement of the burners, which implies a helical flow pattern in the flame tube. Such a flow structure with high exit flow angle can be adopted to reduce the axial length of the combustor as well as the number of the up- and downstream vanes. In consequence, the overall performance and efficiency of such an engine can be improved due to several aerothermal and structural advantages.

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