MODELLING AS A SUPPORTING TOOL FOR RESEARCH AND DEVELOPMENT OF LOW-NO_X GAS BURNERS

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ABSTRACT Detailed study of turbulent combustion using computational fluid dynamics (CFD) becomes nowadays more and more frequent, as it provides large amounts of data that are otherwise very hard to be obtained although their knowledge can contribute to design and operation optimisation. This text describes partial results of a work, ultimate goal of which is a complete description of the combustion of natural gas in experimental combustion chambers, including the formation of pollutants, using CFD methods validated by measured data. Besides this main goal, attention is also focused on several partial goals, the solution of which is considered to be beneficial. Among these belongs e.g. generation of simpler empirical models for the prediction of emission formation, comparison of the computed solutions with results of other methods, solving partial problems for better definition of boundary conditions of the main analysis and so on.