2006-W-062

가스터빈 연소기의 화염안정성 해석

강성모* · 김용모*† · 정재화** · 안달홍**

Numerical Modeling for Flame Stabilization of Gas Turbine Combustor

Sungmo Kang*, Yongmo Kim*†, Jae-Hwa Chung**, and Dal-Hong Ahn**

ABSTRACT: In order to realistically represent the complex turbulence-chemistry interaction at the partially premixed turbulent lifted flames encountered in the gas turbine combustors, the combined conserved-scalar/level-set flamelet approach has been adopted. The parallel unstructured-grid finite-volume method has been developed to maintain the geometric flexibility and computational efficiency for the solution of the physically and geometrically complex flows. Special emphasis is given to the swirl effects on the combustion characteristics of the lean-premixed gas turbine combustor. Numerical results suggest that the present approach is capable of realistically simulating the combustion characteristics for the lean-premixed gas turbine engines and the lifted turbulent jet flame.