As a core component of the combustor, the gas turbine swirler's thermomechanical behavior directly impacts overall engine safety.The methodology involves obtaining the combustion flow field temperature distribution via Fluent, transferring the temperature field loads to the Steady-State Thermal and Static Structural modules, and performing thermal stress analysis on a 1/24 periodic symmetric model.Through one-way coupled numerical simulation implemented on the ANSYS Workbench platform, this study investigates the thermal stress of the swirler under typical operating conditions.

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