

Abstract: The coolant temperature of internal combustion engines can be regulated effectively by advanced thermal management systems that feature multiple computer controlled servomotor actuators (i.e., a variable position smart valve, variable speed electric water pump, variable speed electric radiator fan). When the components of the advanced thermal management system function harmoniously, desired thermal conditions can be achieved in a power efficient manner. Hence, fuel consumption and emissions are reduced. In this paper, a fuzzy logic control architecture is proposed for transient temperature tracking. A representative numerical simulation is introduced to demonstrate the functionality of the thermal management system.