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APPLICATION OF THE SNAP RING JOINT IN SOLID ROCKET MOTOR DESIGN

Abstract

Abstract In this paper, several typical joint structure used in the solid rocket motor is overviewed. The advantage of the snap ring is summarized by comparing with other joint structure. The snap ring joint structure is optimized for the current military application. The deformation under high pressure, sealing structure design, fit clearance, assemble process etc. are investigated comprehensively. And the snap ring joint structure is analyzed by using the finite element method. Compared with the result of the mechanical experiment, it is proved that the design program of the snap ring joint structure is reasonable and feasible.