Aerial mapping using autonomous fixed-wing unmanned aerial vehicle

Abstract

Energetic materials have been widely used for military purposes. Continuous research programs are performing in the world for the development of the new materials with higher and improved performance comparing with the available ones in order to fulfill the needs of the military in future. Different sizes of aluminum powders are employed to produce composite rocket propellants with the bases of Ammonium Perchlorate (AP) and Hydroxyl-Terminated-Polybutadiene (HTPB) as oxidizer and binder respectively. This paper concentrates on recent advances in using aluminum as an energetic material and the properties and characteristics pertaining to its combustion. Nano-sized aluminum as one of the most attractable particles in propellants is discussed particularly.