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Nuclear Powered UAV for Surveillances and Aerial Photography

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Abstract : Now-a-days for surveillances unmanned aerial vehicle plays a vital role. Not only for surveillances, aerial photography disaster management and the notice of earth behavior UAV1s envisages meticulously. To reduce the maintenance and fuel nuclear powered Vehicles are greater support. The design consideration is much important for the UAV manufacturing industry and Research and development agency. Eventually design is looking like a pentagon shaped fuselage and black rubber coated paint in order to escape from the enemy radar and other targets. The pentagon shape fuselage has large space to keep the mini nuclear reactor inside and the material is carbon – carbon fiber specially designed by the software called cosmol and hyper mesh 14.2. So the weight consideration will produce the positive result for productivity. The walls of the fuselage are coated with lead and protective shield. A double layer of W/Bi sheet is proposed for radiation protection at the energy range of 70 Kev to 90 Kev. The designed W/bi sheet, only 0.14 mm thick and is 36% light. The properties of the fillers were determined from zeta potential and particle size measurements. The Exposes of the radiation can be attenuated by 3 ways such as minimizing exposure time, Maximizing distance from the radiation source and shielding the whole vehicle. The inside reactor will be switched ON when the UAV starts its cruise. The moderators and the control rods can be inserted by automation technique by newly developed software. The heat generated by the reactor will be used to run the turbine which is fixed inside the UAV called mini turbine with natural rubber composite Shaft radiation shield. Cooling system will be in two mode such as liquid and air cooled. Liquid coolant for the heat regeneration is ordinary water, liquid sodium, helium and the walls are made up of regenerative and radiation protective material. The other components like camera and arms bay will be located at the bottom of the UAV high are specially made products in order to escape from the radiation. They are coated with lead Pb and natural rubber composite material. This technique provides the long rang and endurance for eternal flight mission until we need any changeability of parts or product. This UAV has the special advantage of ` land on String` means it`ll land at electric line to charge the automated electronics. Then the fuel is enriched uranium (< 5% U - 235) contains hundreds of fuel pins. This technique provides eternal duty for surveillances and aerial photography. The landing of the vehicle is ease of operation likewise the takeoff is also easier than any other mechanism which present in nowadays. This UAV gives great immense and immaculate technology for surveillance and target detecting and smashing the target.

Keywords : mini turbine, liquid coolant for the heat regeneration, in order to escape from the radiation, eternal flight mission, it`ll land at electric line

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