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Bismillah



IAP-SAT is the first Lebanese meteorological satellite. It will be used to take meteorological data to estimate the state of weather in Lebanon.

In 2015 there was established a hardware-in-loop test rig for IAP-SAT where the space environment was simulated. One of the next steps shall be the development of an electrical propulsion unit based on pulsed plasma thruster (PPT) technology. In two PhD theses there shall be investigated the PPT thruster and its interaction with Van Allen Belt magnetic field.

#### **PhD Thesis:**

#### **CFD Simulation of interaction of IAP-SAT PPT with Van Allen magnetic field**

Detailed description an working plan:

- Development of appropriate optimized CFD algorithm package able to undergo a fast simulation of PPT similar magnetic field environments
- Taking Simulation Data for interaction of IAP-SAT PPT with Van Allen Belt magnetic field.

Keywords: Electrical Space Propulsion Units, pulsed plasma thruster (PPT) technology, computational fluid dynamics.

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