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## 3P25 - Pulsed power supply design for vacuum arc thrusters application

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A vacuum arc thruster is a compact solid propellant propulsion system, which is capable to produce thrust in uN range. It is particularly interesting for very small satellites with a limited space and mass budget.

For a space ready vacuum arc thruster system among other issues which need to be addressed the development of a suitable power supply is necessary. It should allow a stable and long term operation of the thruster under conditions which prevail on a solar cell powered satellite. Since a limited energy budget is available in this case, the thruster has to be operated in a pulsed mode.

In this work we present a pulsed forming network based power supply, which was adapted to suit the needs of the vacuum arc thruster applications under space condition. It features a design suitable for operation over many millions of pulses as well as an adjustable pulse length which allows to operate the thruster in different modes. Moreover, this design is compared to other power supplies suggested for the vacuum arc thruster.

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