

Condensable propellants as an option for multi kilowatt space propulsion.

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Possibility of condensable propellants application are discussed based on consideration of the issues associated with propulsion system development, ground tests and compatibility of the propellant with spacecraft (S/C).

Existing data and foreseeing parameters of several thruster types, operating on different propellants - MPD, Hall and Ion - are analyzed for potential usage on board of multi kW S/C.

Schemes of the propellant storage and management subsystem are considered.

Propellant back flows and potential solutions to minimize risk of the propellant deposition on S/C surface are considered based on plume modeling and experimental data.

Identified problems of a propulsion system development and direction of potential research activity are discussed.