Hot-Firing tests using a low temperature derivative of LMP-103S

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In order to handle significantly lower storage temperatures (down to about -30ºC) than specified for traditional storable mono-propellants (e. g. hydrazine), a low-temperature derivative of the space qualified LMP-103S has been conceived and tested in a 22 N development thruster. The propellant blend with test series number 1127-3, have 20% higher density than hydrazine and combusts at a lower temperature than LMP-103S, giving a specific impulse comparable with the Isp for hydrazine. For a given volume of a tank this would enhance the delta-V capability by 20%. The lower combustion temperature may enable the usage of less expensive materials for the thrust chamber assembly as compared with the baseline design for HPGP thrusters.