## IAF SPACE PROPULSION SYMPOSIUM (C4) Interactive Presentations - IAF SPACE PROPULSION SYMPOSIUM (IP)

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## OPTIMUM DESIGN OF LOX RECIRCULATION SYSTEM IN KSLV-II 1ST STAGE

## Abstract

LOX recirculation system is generally used for rocket engine cooling and preventing geysering effect at LOX feedline. The design goal of this system is to maximize the natural recirculation flowrate of LOX by changing the diameter of recirculation pipeline and the position of the outlet of pipeline connected to the cylinder part of LOX tank. The design constraints are the distance from the bottom of tank to starting position of LOX recirculation and heat-inflow from the engine. In this paper, optimum deign technique is presented and varified with the experimental results. As the results, the design results for KSLV-II 1st stage is presented.