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ADDITIVE MANUFACTURING OF COMPLEX SHAPE CERAMIC PARTS FROM LUNAR  
REGOLITH SIMULANT

**Abstract**

In-situ Fabrication and Repair by the means of additive manufacturing with lunar regolith is a promising solution for ensuring sustainable crewed exploration of the Moon. Digital light processing is one of the additive manufacturing procedures, which are being considered for the fabrication of precise ceramic parts and instruments from lunar regolith. In the present paper, we have studied the feasibility of using a commercial DLP 3d-printer and photopolymer binder for manufacturing precise ceramic parts of a complex shape from LHS-1 lunar regolith simulant. Produced samples were studied by the means of gravimetric densimetry, optical microscopy, SEM, and EDX. It was shown that using an on-shelf DLP printer and photopolymer binder with 57 wt.