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## FEM SIMULATION AND EXPERIMENTAL VALIDATION OF FLASH-LESS COLD FORGING FOR PRODUCING AUV PROPELLER BLADE\*

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**Abstract**– Manufacturing of the Autonomous Underwater Vehicle (AUV) is a challenge for researchers because of the hazardous ocean environment. The propeller is the most complex part in AUV because of its elaborately shaped blade designed to increase the thrust. The selection of the manufacturing process, flash-less cold forging die design and optimization of the work-piece are the major issues to reduce the overall cost of the propeller. Numerous investigations have been