## Abstract

Most of defects of Electro Chemical Machining for sleeve groove manufacturing process are out of the specification of Groove Depth and Groove Ratio. Therefore, it is important to optimize the processes parameters suitably to Groove Depth and Groove Ratio which are the key performance index of the quality. Design of Experiment (DOE) by Complete Randomized and Taguchi method has been applied to investigate the optimal combinations of process parameters to the targets: 10 micron of Groove Depth and 1 of Groove Ratio.

Analysis of variance (ANOVA) was performed and signal-to-noise(S/N) ratio was determined to know the level of importance of the parameters. The results were confirmed experimentally at 95% confidence interval. Based on ANOVA, 10 amperes of Current with 10 Pulses, duty factor is 40% and Gap Factor is 50 micron was found to be significant for best Groove Depth and Groove Ratio.