IMPACT: International Journal of Research in Engineering & Technology (IMPACT: IJRET)
ISSN(E): 2321-8843; ISSN(P): 2347-4599
Vol. 3, Issue 7, Jul 2015, 9-18
© Impact Journals

OPTIMIZATION OF MACHINING PARAMETERS USING BIO-GEOGRAPHY BASED ALGORITHM TECHNIQUE

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ABSTRACT

This paper, proposes a non-linear constrained mathematical model to search the optimal cutting parameters such as cutting speed, feed rate and depth of cut. The model deal with the multi-pass turning operation which is comprises of multi-pass rough machining and finish machining. An optimization technique based on bio-geography based optimization has been introduced to optimize the multi-pass roughing and single-pass finishing parameters to achieve minimum production cost. BBO is very effective and efficient method for optimization problem. An example is adopted from the literature to solve the proposed optimization problem.

KEYWORDS: Multi-Pass Turning Operation, Cutting Parameters, Bio-Geography Base Optimization