

PERFORMANCE ANALYSIS OF SOME GEOMETRICAL TRANSFORMATION ALGORITHMS USING RECONFIGURABLE COMPUTING

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ABSTRACT: *This paper introduces a new mapping of geometrical transformation on the MorphoSys (M1) reconfigurable computing (RC) prototypes. New mapping techniques for some linear algebraic functions are recalled. A new mapping for geometrical transformations operations is introduced and their performance on M1 is evaluated. The translation and scaling transformations addressed in this mapping employ some vector-vector and vector-scalar operations [6-7]. A performance analysis study of the M1 RC is also presented to evaluate the efficiency of the algorithm execution on the M1 system. For Instance, 2D transformations on an 8x8 RC array were run, and numerical examples were simulated to validate our results, using the MorphoSys mULATE program, which simulates MorphoSys operations.*