

# Abstract

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## **VHDL-Based Simulation of a Parallel Implementation of a Phase-Based Algorithm for Optical Flow**

the computation of optical flow can be an important part in a diverse number of applications. however, optical flow algorithms can be categorized as either very accurateslowvery fasthighly inaccurate. none of the optical flow algorithms combined both accuracyefficiency. among these algorithms was the phase-based fleetjepson algorithm. although this algorithm has proved to produce relatively accurate results, it can not be exploited in many real-life applications due to its relatively long run-time. the goal of this paper is to combine the accuracy of the phase-based optical flow algorithm by fleetjepsonexploit the parallelismhigh performance capabilities of the fpgas to provide an accurateefficient optical flow algorithm for fpga-based applications.