

Sabri A. Mahmoud, M. S. Afifi, and R.J.Green,
"Motion Detection and Velocity Computation of Moving Objects of Variable Velocities in Image Sequences",
Proceedings of the 19th annual Pittsburgh Conference on Modeling and Simulation, pp. 1095-1099,
May 5-6, 1988.

Key words: Velocity computation, image sequence, variable velocity, motion detection, multiple moving objects.

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Motion Detection and Velocity Computation of moving
objects of variable velocities in image sequences

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ABSTRACT

Analysis of the motion detection and velocity computation of moving objects of changing velocities in sequences of images, using the Exponential Area Transform(EAT) is presented. Their spectrum, unlike the spectrum in the case of constant velocity, is spread out and have multiple peaks each corresponding to different velocity, and located at different temporal frequency.

The discrimination between one moving object with variable velocity and multiple moving objects with constant velocities is addressed. An algorithm based on using sub-sequences of the image sequence is presented.

Experimental results which demonstrate the applicability of this technique is included.

Keywords : Velocity Computation, Image Sequence, Variable Velocity, Motion Detection, Multiple Moving Objects.