

**Sabri A. Mahmoud**, MS Afifi, and R. J. Green,  
"Moving Objects Localization and Trajectory Tracking",  
Proceedings of the 19th annual Pittsburgh Conference on Modeling and Simulation, pp. 1089-1093,  
May 5-6, 1988.

**Key words:** Velocity computation, multiple moving objects, image sequence, Fourier Transform, Image sectioning, Recognition.

---

©U. of Pittsburgh, 1988

### Moving Objects Localization and Trajectory Tracking

Sabri A. Mahmoud,  
Royal Saudi Naval Forces  
Riyadh, Saudi Arabia

Mostafa S. Afifi,  
King Saud University  
Riyadh, Saudi Arabia

Roger J. Green  
University of Bradford  
Bradford, UK

#### ABSTRACT

A method based on tracing computed velocities at different areas of the image sequence, where the object exists, is presented. The used algorithm is applied to the original sequence and then to selected smaller areas where the motion is expected. The trajectories are found by tracing the computed velocities of the moving objects from the area they enter the sequence to all adjacent areas of the same velocities in the image sequence. Experimental results are presented to demonstrate the applicability of this technique.