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Identification and Velocity Computation of Multiple Moving Objects in Images

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Analysis for the identification and velocity computations of multiple moving objects in sequences of images is presented. Previously published analysis of the authors addressed sequences with one or two moving objects. Here the analysis is extended to sequences with multiple moving objects.

Simulation is performed to demonstrate the applicability of this technique. Multiple moving objects appear in the spectral domain as groups of individual peaks which identify the objects and is used to compute their velocities. Algorithms for evaluation of the spectral peaks of multiple moving objects, which completely identify the velocities of these objects, are also presented.