1125-90-2700 **Thy M. Tran**, **James P. Ferry**, **John D. Foley*** (foley@metsci.com) and **Gregory A. Godfrey**. *Multi-commodity flow applied to tracking multiple targets.*

Tracking multiple objects of interest (targets) over time is a basic problem in automated image processing and surveillance. With the increasing availability of data, the problem of stitching together short-history tracks (known as tracklets) into longer-history tracks has emerged. Castañón and Finn reframe multi-target tracklet stitching as a minimum cost flow problem over a graph by introducing a memoryless assumption for tracklet sequences. In particular, a graph flow of minimal cost corresponds to an assignment of short-history tracklets to long-history tracks of greatest likelihood. To leverage both persistent target data and memoryless tracklets, we formulate a multi-target tracking problem that corresponds to a minimum cost multi-commodity flow problem under appropriate assumptions. (Received September 20, 2016)