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Yiqing Cai* (yiqingcai@ima.umn.edu), 207 Church Street SE, 306 Lind Hall, Minneapolis, 55455, and **Andrew Beveridge**. *Capturing the evader in 2-d Euclidean space with topological strategy.*

Pursuit evasion game in 2-d Euclidean space with smooth boundary and obstacles is discussed in this paper. Both the pursuers and the evader has full visibility of the environment. Suppose they move alternatively with the same maximum speed, and the pursuers would need to physically capture the evader in order to win the game. We prove that three pursuers suffice to win the game, by using a topological strategy to simplify (or to reduce the genus of) the contaminated region. (Received September 11, 2014)