

## **Pursuit differential game of two pursuers and one evader in $\mathbb{R}^2$ with coordinate-wise integral constraints**

### **ABSTRACT**

A pursuit differential game of two pursuers and one evader in  $\mathbb{R}^2$  is studied. All players' controls are subjected to coordinate-wise integral constraints. By definition, pursuit is completed if the state of a pursuer coincides with that of the evader at some time. The problem is to find conditions of completion of pursuit. We show that if the energy vector of the evader belongs to a polygon, then pursuit can be completed.

**Keyword:** Control; Integral constraints; Pursuit; Strategy