

HAJIYEV A.G., GAFAROV I.A.

MATHEMATICAL MODELS OF MOVING
PARTICLES WITHOUT OVERTAKING

Abstract

In the paper the model of continuous movement of s particles along the circle without overtaking is considered. Every particle in dependence on distance to the following particles moves with the velocity V_1 or V_2 ($V_1 < V_2$). The distance between particles is regulated by the given quantities Q_1 and Q_2 ($Q_1 < Q_2$).

The various established states of movement which is determined by the introduced graph, are described, the found states of movement are compared in dependence on average latency period at the given point.

In the paper for determinate systems, the theorem allowing to choose an optimal condition of movement is proved. However, by modeling in computer it's shown that the optimal condition of movement, established for determinate systems, for stochastic models not only is optimal, and what more is unwanted.