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Dynamic model of a remotely controlled swarm of robots

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Abstract: Drones and robots are getting more and more popular. We can buy DRONs in supermarkets. And see robots in factories or in service especially in military, security or rescuing application. Currently we are used to individual robot remotely controlled by an operator, but very soon we should expect teams of autonomous robots releasing their task or robots working as the swarm of robots. They can be used not only in military application but in rescuing actions, for instance collecting pollution or in ecological agriculture fighting with vermin. In this paper authors present the problem of control multi-element systems. In paper authors present the model of a swarm of robots as the one dynamically random reconfigurable body. To keep the system under control a new structure was proposed and analyzed with simulation. The method of swarm parameter evaluation is presented. Authors present the algorithm of system configuration and control in multilevel structure. The with proposition of further works and perspectives in this area.

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