

**ASPECTS OF THE FLIGHT INTELLIGENCE ROUTE OPTIMIZATION  
UNMANNED AERIAL VEHICLE TACTICAL RADIUS OF ACTION  
USING LITTL'S ALGORITHM**

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Over the past few years, unmanned aerial vehicles have been significantly developed, with a growing number of industries and forms of use. In the military sphere, UAVs are often used to obtain intelligence information. Minimizing the human factor at all stages of planning and performing assigned tasks is the priority of developing all the latest models of weapons and military equipment. The use of UAVs for air reconnaissance has significant advantages over traditional methods, namely: small dimensions of the UAVs, the minimum personnel vulnerability in combat, the possibility of flying at low altitudes, and improving the quality of images and video taken at the expense of flight altitude and others. However, the use of reconnaissance aircraft of the tactical radius of action imposes significant restrictions: the issue of optimization of the use of unmanned aviation complexes UAVs to reduce the cost of resources for flight, flight routes, etc.

The question of optimizing the flight route, namely, the reduction of the length of the path of passing the contour points of the aircraft, is relevant and actively explored. Many modern studies and publications of domestic and foreign scientists (Moiseiev V. S., Varava I. A., Vasylyn N. Ya., Mosov S. P. and others) are devoted to this topic. The results of their research are actively used in practice, but they are approximate in relation to the most optimal, therefore this issue is promising for further scientific research.

In the research materials, it is proposed to use Littl's algorithm to optimize the flight path of the reconnaissance UAVs. Let's assume that the flight UAVs has the form of a fully connected graph, the peaks of which are the points of departure of the UAVs and the objects of the intelligence, and the edges are the distances between the objects. With the help of Little's algorithm, the arcs with the lowest weights are gradually calculated, and the route of the flight of each point is calculated gradually, so that the overall route of the UAVs will eventually be of the least length.

The prospect of further research in this field is the development of a model for optimizing the routes of the UAVs and checking them for adequacy in real conditions.