AIR TRAFFIC CONTROL WITH PROGNOSTICATED FLIGHT TRAJECTORY

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Abstract. The satellite navigation and precision inertial system development quality leap provided a significant increase of the object position definition accuracy characteristics. This technology implementation in aviation led to possibility of flights in the given trajectory coordinates through a geodesy system without application of ground radio beacons to navigate. Of course, there is also a possibility to make a flight with a random route connecting airports of taking off and one of landing with optimal trajectory keeping in mind the limitations of air space restricted areas including sometimes the zone landscape. Logically to continue the transformation from the flights with radio beacons to navigate to the flights of so called zone navigation they need to form a given route and its sections connected to the way points with clearly defined geodesy system coordinates. So there is a possibility of accurate aircraft movement trajectory prognostication in a route and the prognostication of its navigation characteristics. There are some principles proposed of a control algorithm being applied during the aircraft movement in prognosticated navigation trajectories.

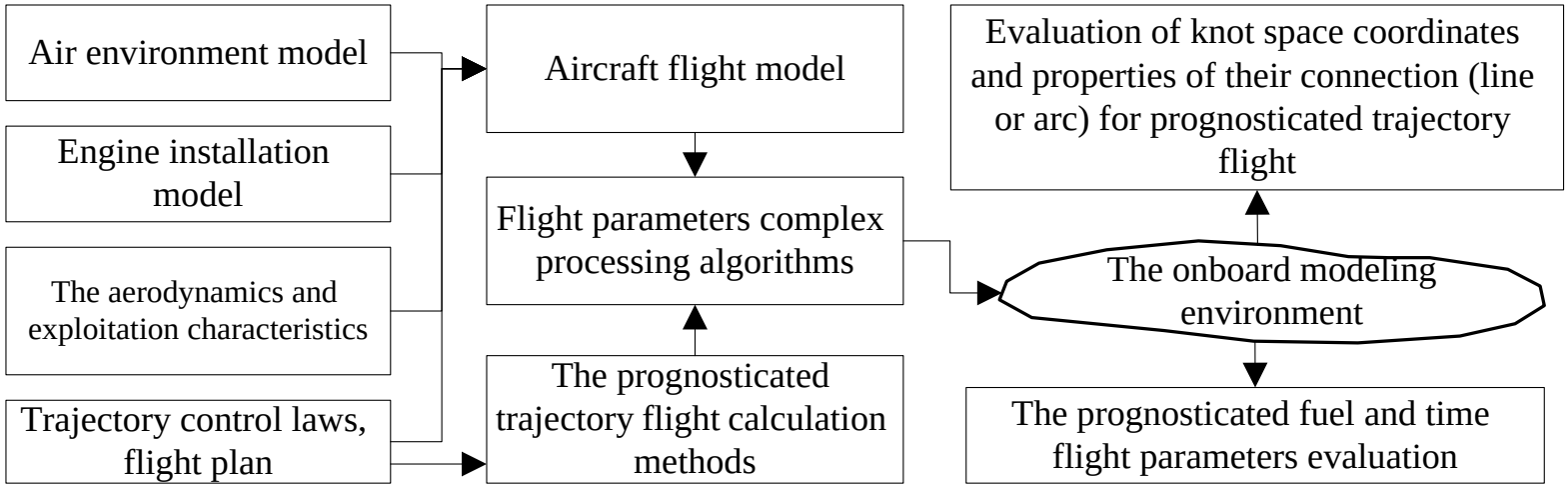

Figure 1. System synthesis general scheme of the automatic trajectory control method and flight data complex processing algorithms.