Cooperative Motion Planning for Multiple UAVs via the Bézier Curve Guided Line of Sight Techniques

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***Abstract*—Multiple motion planning plays an essential role in several vehicle motions. This paper proposes a cooperative method between the Line of Sight techniques and the Bézier curve, applying this to motion planning for unmanned aerial vehicles. The experiment is implemented using the AirSim plugin on Unreal Engine 4. The results of the proposed method are compared with those for the conventional Line of Sight techniques to control multiple unmanned aerial vehicles. The results illustrate that the proposed method takes more time to process than the conventional one. However, the proposed method can reach a higher performance by addressing the target unmanned aerial vehicles and the pre-defining path more than the conventional method does, which is shown in all three simulation cases.**

***Keyword*—Multiple UAVs, motion planning, Guidance Law, LOS(Line-of-Sight), Bézier curve, AirSim**

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