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## 基于CS曲线的最优航迹光顺方法研究(PDF)

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Title: The Research on Optimal Path Faring Algorithm Based on CS Curve

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关键词: [航迹光顺](#); [动态规划](#); [航迹规划](#); [CS曲线](#)

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摘要: 航迹光顺是保证无人机航迹规划可飞性的关键。给出了基于V图的规划空间生成策略,运用动态规划法,获得了初始最优航迹;研究分析了CS曲线的变化特性,提出了一种基于CS曲线的航迹光顺算法;通过引入无人机飞行性能约束到CS曲线,建立基于CS曲线的最优航迹光顺模型;仿真结果表明所提航迹光顺方法既保证了航迹的可飞性,又保证了无人机的安全性。

Abstract: The path fairing technology will ensure a flyable path for UAVs. Firstly, planning space was given by using Voronoi graph and the dynamic programming search algorithm was used to get an initial path; Secondly, the properties of CS curve were studied, based on which, a path fairing method was put forward; Thirdly, through combining the flying constraints into CS curve, the optimal path fairing model was built based on CS curve; Lastly, the simulation was presented and the results show that the path fairing algorithm can not only ensure the path is flyable, but also ensure UAVs' safety.

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