# Engineering Village

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**Abstract:** Autonomous helicopter operations in the near-earth environment will require robust and efficient obstacle field route planning. A method for obstacle field route planning is presented, which is composed of a mesh generation phase, a graph search phase, and a route refinement phase. The method mixes optimization and heuristics to obtain a satisfactory solution quickly. Simulations based on an unmanned helicopter model are presented.

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| **Main heading:** | Rotors |
| **Controlled terms:** | Algorithms - Computational geometry - Helicopters - Heuristic methods - Information analysis - Robustness (control systems) - Sensors - Strategic planning |
| **Uncontrolled terms:** | Obstacle field route planning - Planning algorithms - Roadmap - Rotorcrafts |
| **Classification code:** | 921.4 Combinatorial Mathematics, Includes Graph Theory, Set Theory - 921 Mathematics - 912.2 Management - 903.1 Information Sources and Analysis - 732.2 Control Instrumentation - 731.1 Control Systems - 723.5 Computer Applications - 652.4 Helicopters - 601.2 Machine Components |
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