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## 一种基于局部Voronoi图的目标穿越算法

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### Abstract

Many sensors nodes are deployed in a region of concern to detect any potential targets. On the contrary, intelligent target looks for the best path to traverse the sensing field for fear of being detected. This paper focuses on how an intelligent target traverses the sensing field. This traversing problem is modeled, and a number of path-finding algorithms are designed, implemented and evaluated. Different from previous works which assume complete information of the sensing field, it is assumed that the target only can detect part of the sensor nodes deployment. This makes the proposed methods more practical and reasonable. Extensive experiments with a target and a sensor network confirm the validity of the approaches.

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### 摘要

许多传感器节点被布置在感兴趣的区域,以监控任何可能出现的目标;另一方面,智能目标搜索最佳路径穿越监控区域,以免被监测到.关注目标如何穿越被监控区域的问题,建立穿越问题模型,基于局部Voronoi图设计并实现了一系列路径搜索方法,并对其进行了详细分析与比较.其特色在于假设目标仅能探测到部分布置的传感器节点,并基于此局部信息实现穿越,这使得所提出的方法更加有效并符合客观实际.实验结果验证了该方法的可行性和适用性.

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