해양 탐색을 위한 다수 자율 이동체의 임무 계획 (가제)

Mission planning for maritime searching using multiple autonomous vehicles (temp)

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Abstract In recent years, the impact and the complexity of disasters such as earthquake, hurricane, and accidents is increasing, so the collaborative operation with a group of multi-vehicle systems is essential for an effective response in a disaster environment. Mission planning is crucial to the effective collaboration of multiple and heterogeneous vehicle systems. This study proposes the mission planner and essential planning technologies to response the disaster efficiently. In general, missions (search and rescue, oil spill tracking etc.) are defined broadly and complexly, making it difficult for autonomous vehicles to perform directly. To deal with this problem, this study tries to decompose the mission to clear and simple several tasks which can be done by autonomous vehicles. In addition, this study emphasizes path planning algorithms for initial searching and task allocation. The performance and feasibility of proposed the planner and the algorithms are evaluated with numerical simulation based on a realistic simulation environment.

Keywords:  Disaster robotics, Multi-vehicle collaboration, Mission planning, Initial searching path, Multi-vehicle task allocation

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