عنوان مقاله:
2D MULTI-ROBOT SLAM USING LASER DATA

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خلاصه مقاله:
In this article, the cooperation of two ground robots are used to produce a two-dimensional map of the environment. The job is done using the information extracted from laser sensors mounted on the robots and the odometry data provided by each. To map the environment, a robot must know and determine its position in the environment, and have a map. To solve this complex problem. simultaneous localization and mapping (SLAM) methods are required. In large and complex environments, using a robot is not affordable because the error and the time required are increased. That s why multiple robots are used for mapping. The greatest challenge in the multi- robot case is the map-merging problem. In this study, an efficient algorithm is presented where the maps are converted into images and then merged. This algorithm can be implemented in online or offline modes. Ftmherinore. the system can merge the two maps without some information like the initial and relative positions of the robots in the mapping process. Several practical tests are performed to suppon the perfomtability of the method. To sum up, one of them is presented in this article. The results of all the tests indicate that the method was successful in increasing the accuracy and reducing the time required.

کلمات کلیدی:
Map-incrging, Laser Sensor, Multi-agents SLAM. Ground Robot