Method for planning the trajectories of mobile objects in conditions of uncertainty

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The robot must move in accordance with this force.



The robot approaches the obstacle, the repulsive force will act on it, pushing the robot away from the obstacle.



• Robot pushes back from the obstacle and goes to the goal.

The total potential field:

 $U_{g}(q)$ – the potential field of the target point $U_{q}(q)$ – the potential field of the obstacle field

The induced force is calculated:

U(q) –the potential field

r(q,g) - the Euclidean distance between a robot in a state q and a goal r(q,o) – the Euclidean distance between a robot in a state q and the nearest point to the obstacle

<u>Advantages</u>

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- * It is able to hold the robot at any point of the simulated environment.
- *Vectors of resistance are calculated only by the indications of the sensors at the current time.

Disadvantage

* High probability of getting into the local minimum.



Thank you for your attention!