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# A study of the Beeclust algorithm for robot swarm aggregation

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## Abstract

Swarm robotics is a topic that has gained momentum in recent years thanks to its possibility to solve different engineering problems. Many robots are expected to work collaboratively to solve a given task. One of the main challenges is the design of the robot controller since it must be defined at the robot level to accomplish a task at the swarm level. The characteristics and properties of natural swarms have been studied to solve this problem. From these studies, basic behaviors have been defined, one of them being aggregation. This work explores the classical aggregation algorithm known as Beeclust. The Beeclust algorithm was implemented in MATLAB. Test were performed to determine its effectiveness in forming aggregates and the factors that affect its efficiency. © 2022 IEEE.

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