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A Review of Studies in Swarm Robotics

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**Abstract:** Swarm robotics is a new approach to the coordination of large numbers of relatively simple robots. The approach takes its inspiration from the system-level functioning of social insects which demonstrate three desired characteristics for multi-robot systems: robustness, flexibility and scalability. In this paper we have presented a preliminary taxonomy for swarm robotics and classified existing studies into this taxonomy after investigating the existing surveys related to swarm robotics literature. Our parent taxonomic units are modeling, behavior design, communication, analytical studies and problems. We are classifying existing studies into these main axes. Since existing reviews do not have enough number of studies reviewed or do have less numbers of or less appropriate categories, we believe that this review will be helpful for swarm robotics researchers

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