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### Emergent behavioral modeling language in obstacle avoidance

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**Book Group Author(s):** IEEE

**Source:** 2007 IEEE INSTRUMENTATION & MEASUREMENT TECHNOLOGY CONFERENCE, VOLS 1-5 **Book Series:** IEEE INSTRUMENTATION & MEASUREMENT TECHNOLOGY CONFERENCE, PROCEEDINGS **Pages:** 1614-1619 **Published:** 2007

**Times Cited:** 0 **References:** 10 [Citation Map](#)

**Conference Information:** 24th IEEE Instrumentation and Measurement Technology Conference  
Warsaw, POLAND, MAY 01-03, 2007  
IEEE

**Abstract:** Artificial distributed systems employ sophisticated algorithms that are well matured and efficient but require a high degree of computational power. Opposite to artificial distributed systems, natural systems display emergent behavior by employing extremely simple algorithms that are very efficient when dealing with large number of entities but are unpredictable and nondeterministic. The formal modeling of such emergent behavior is presented in this paper by the introduction of a formal language called eBML. A simple yet effective obstacle avoidance algorithm is proposed and discussed here, based on studies of ant colonies which are modeled using eBML.

**Document Type:** Proceedings Paper

**Language:** English

**Author Keywords:** emergent behavior; behavioral modeling; robotic environments; collaborative environments; obstacle avoidance

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**Publisher:** IEEE, 345 E 47TH ST, NEW YORK, NY 10017 USA

**IDS Number:** BGY21

**ISSN:** 1091-5281

**ISBN:** 978-1-4244-0588-6

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