Nanorobotics - Nanomechanics / Items

NANOROBOTICS CONTROL DESIGN AND 3D SIMULATION
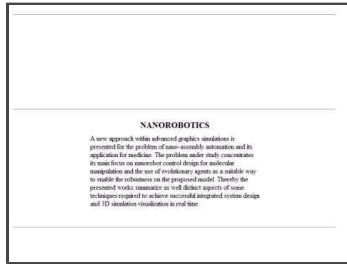
DESCRIPTION

NANOROBOTICS

A new approach within advanced graphics simulations is presented for the problem of nano -assembly automation and its application for medicine. The problem under study concentrates its main focus on nanorobot control design for molecular manipulation and the use of evolutionary agents as a suitable way to enable the robustness on the proposed model. Thereby the presented works summarize as well distinct aspects of some techniques required to achieve successful integrated system design and 3D simulation visualization in real time

Initial uses of nanorobots to health care are likely to emerge within the next ten years with potentially broad biomedical applications. The ongoing developments of molecular-scale electronics, sensors and motors are expected to enable microscopic robots with dimensions comparable to bacteria. Recent developments on the field of biomolecular computing has demonstrated positively the feasibility of processing logic tasks by bio-computers, which is a promising first step to enable future nanoprocessors with increasingly complexity. Studies in the sense of building biosensors and nano -kinetic devices, which is required to enable nanorobots operation and locomotion, has been advanced recently too. Moreover, classical objections related to the real feasibility of nanotechnology, such as quantum mechanics, thermal motions and friction, has been considered and resolved and discussions about the manufacturing of nanodevises is growing up. Developing nanoscale robots presents difficult fabrication and control challenges. The control design and the development of complex integrated nanosystems with high performance can be well analysed and addressed via simulation to help pave the way for future use of nanorobots in biomedical engineering problems.

Nanorobotics Papers

Adriano Cavalcanti Bijan Shirinzadeh Luiz C. Kretly , " Medical Nanorobotics for Diabetes Control ", **Nanomedicine : Nanotechnology, Biology and Medicine** Elsevier , Vol. 4, no. 2, pp.127-138, June 2008.

Adriano Cavalcanti Bijan Shirinzadeh Mingjun Zhang, Luiz C. Kretly , " Nanorobot Hardware Architecture for ...

ORIGINAL URL

http://www.nanorobotdesign.com/

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