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Neuro-dynamics based Intelligent Control of Various Autonomous Robotic Systems

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Abstract

Research on biologically inspired intelligence has made significant progress in both understanding the biological systems and developing bionic engineering applications to robotics and control systems. In this talk, I will start with a very brief introduction to biologically inspired computational neural dynamics algorithms and their applications to early vision and sensory motion in biological systems. After that, several neuro-dynamics intelligent control of various autonomous robotic systems will be presented, such as real-time path planning, tracking, and control of autonomous ground, aerial, water surface and underwater robotic systems; and intelligent navigation and cooperation of multi-robot systems.