Industrial Engineering & Operations Research
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Inertial-Based Human Motion Tracking for Virtual Training Applications

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Human motion tracking based on use of low-cost MEMS accelerometers, angular rate sensors, and magnetometers will be presented. Low-cost and small-size MEMS sensors offer enormous opportunities for self-contained human motion tracking applications, and at the same time present great challenges in algorithm development due to inherent measurement noises and drifts. Algorithms, prototype systems, and testing results for human posture tracking, position tracking, as well as a recently developed locomotion interface for virtual environments will be discussed.

Bio: Xiaoping Yun is a Professor of Electrical and Computer Engineering at the Naval Postgraduate School in Monterey, California. His research interests include robotics, control systems, MEMS sensors, inertial navigation, and inertial-based human motion tracking. He holds B.S degree from Northeastern University, China, and M.S. and D.Sc. degrees from Washington University in St. Louis, Missouri. He is a Fellow of IEEE.

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