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Magnetic Tracking Using One Transmitting Coil

This new tracking system employs a wireless positioning technology with transmitting coils and tracking devices to deliver fast, highly accurate, and intuitive human-machine interface capabilities for various emerging applications.

Tracking fast and accurately in an indoor environment is important for many emerging applications including indoor navigation, body motion tracking, robot motion tracking, motion based controller, and human-machine interface (HMI). Existing approaches use video tracking or inertia tracking; however, neither one provides enough accuracy, speed, portability, or intuitive interface.

Researchers at Purdue University have developed a new tracking system that includes one transmitting coil and one or multiple tracking devices. The multiple transmitting coils can operate simultaneously and independently using frequency division. This system uses a wireless positioning system. It allows for high speed and high accuracy tracking. It can also provide truly intuitive, natural, and immersive HMI.

Advantages:

-Allows for high speed and high accuracy tracking

-Provides truly intuitive, natural and immersive HMI

-Uses a wireless positioning system

TRL: 6

Intellectual Property:

Provisional-Patent, 2014-04-25, United States

Utility Patent, 2015-04-27, United States

PCT-Patent, 2015-05-12, WO

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NATL-Patent, 2015-05-12, Japan

NATL-Patent, 2017-11-06, Japan

NATL-Patent, 2017-11-09, European Patent

CIP-Patent, 2018-08-14, United States

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