

Dynamic hand gesture recognition using low-cost cavity-backed metasurface apertures

Value Proposition

With the mass adoption of the smartphone came also the embrace of a new user interface, the touch screen. While this is intuitive for viewing and controlling two-dimensional screens and objects, the rise of virtual and augmented reality (AR/VR) will require that user input map to three dimensional actions. For such systems, a three-dimensional gesture recognition system is necessary for intuitive user input. This technology enables reliable, low-cost, radar-based gesture recognition.

Technology

This innovation enables radar-based touch-less hand gesture recognition without the use of complex broadband RF circuitry. This technology has the same benefits of radar imaging over camera-based methods, good performance regardless of skin color, clothing, and lighting conditions, in a simpler, cheaper form-factor.

Advantages

This technology offers the reliability of radar-based gesture recognition in a simple and low-cost form factor.

Publications

- [MetaSense: Boosting RF Sensing Accuracy using Dynamic Metasurface Antenna \(IEEE Internet of Things, 2021\)](#)

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Links

- [Dr. Smith's research website](#)

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