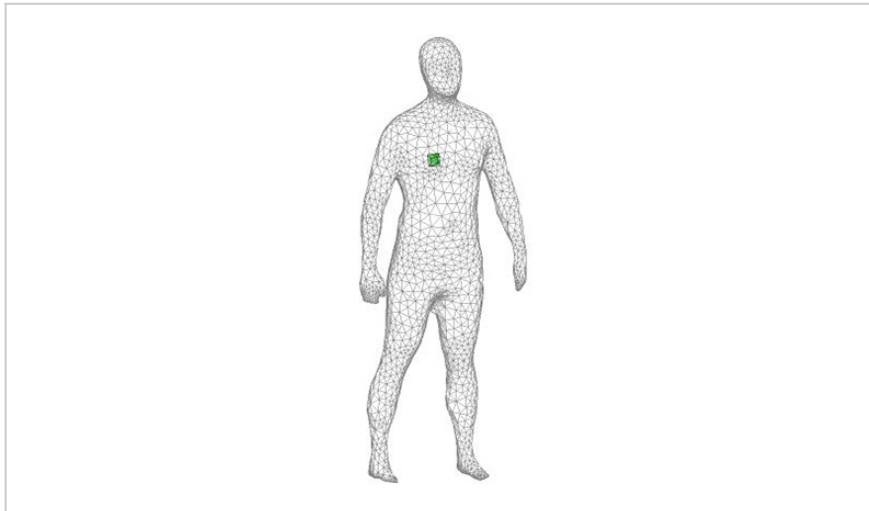


# Circularly Polarized Wearable Antenna for On-Body Applications

ID# 2015-4372



Proposed Antenna Mounted on Human Model

## Technology Summary

This technology reveals a conformal solution towards a compact, lightweight, circularly polarized wearable antenna with super robust and highly-efficient performance when mounted on a human body. The antenna is comprised of a linearly polarized ring monopole on top of a truncated metasurface backed by a metallic ground plane. Its overall performance is very well maintained under structural deformation and human body loading, which is far superior to conventional circularly polarized patch antennas.

## Application & Market Utility

This antenna provides wide angular coverage, circular polarization, and a compact design while mitigating effects of loading due to proximity to the body. The circular polarization of the radiated wave provides a more robust off-body wireless link for wearable devices to communicate with remote stations. Further, this design offers antenna performance stable across varying degrees of physical deformation, as would occur when being worn on the body.

## Next Steps

Seeking research collaboration and licensing opportunities.

TECHNOLOGY READINESS LEVEL

4-7

### Seeking

Investment | Licensing | Research

### Keywords

- body-area network
- wearable antenna
- metasurface antenna
- circularly polarized antenna

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