

Full-body Wireless Data and Power Networking:

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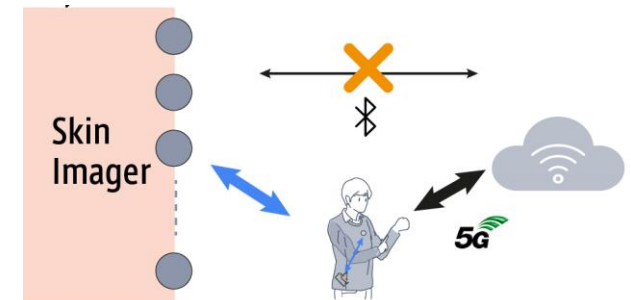


Grand Challenge and Goal:

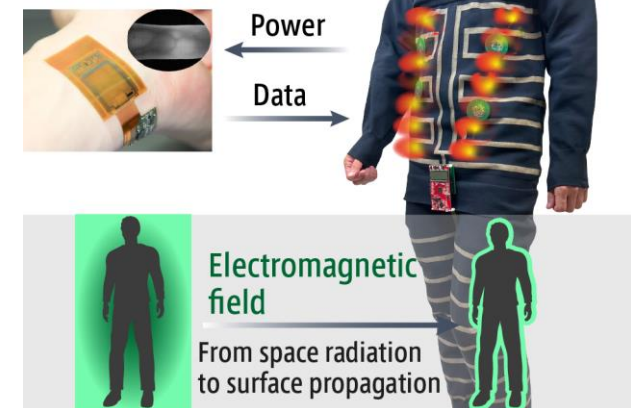
We realize “full-body wireless data and power clothing” capable of secure wireless communication at 50 Mbps and safe wireless power at 5 W, to continuously operate “skin imagers” around the body

Summary:

- Skin imager can monitor on-skin bio signals during daily lives, but its continuous operation is hindered by the wiring and battery
- To continuously stream bio signals from the skin imagers to the cloud, we’re building a clothing-based wireless data and power networking
- Our idea is to create a stretchable 2D wireless physical layer on the textile, being isolated from external wireless space, in addition to MAC layer that controls wireless networking considering human movement



Full-body wireless power and data networking



Social Impact:

- Medical shift from hospital treatment to daily healthcare
- Alternative medical care in depopulated areas and disaster sites
- Hybrid research community of 2D wireless technology and skin electronics