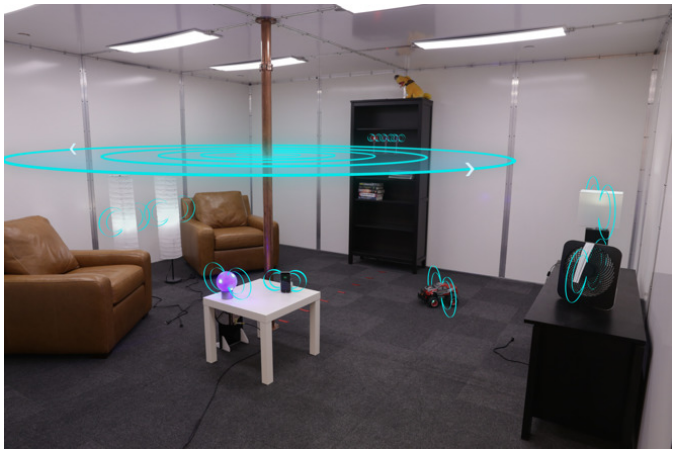
Written by Marco Attard
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Scientists at Disney Research present what one can describe as room-scale wireless power delivery-- a prototype living room housing 10 objects, all powered without need for cables.



Dubbed "Quasistatic Cavity Resonance for Ubiquitous Wireless Power Transfer," the technology is free roaming, meaning one can move around the room and their smartphone will immediately start charging, with no need to be close to a wireless charging pad. It is also very efficient (around 40-95%, depending on the receiver's position in the room) and can deliver 1900W of power before the specific absorption rate (SAR) becomes dangerous for human beings.

However, like all things sounding too good to be true, the technology comes with a caveat-- it requires a purpose-built room, with walls, ceilings and floor built out of aluminium panels. A long copper pole runs in the middle of the room, and half-way down the pipe is a small section housing a ring of 15 capacitors. Outside the room are a signal generator and a power amplifier linked to the capacitors, which together with the copper pipe produce quasistatic cavity resonance (QSCR), the process behind the wireless power transfer technology.

For the curious, QSCR technology creates a uniform magnetic field one can tap into using a coil of wire tuned to resonate at the same frequency. The receiving coil is connected to a couple of capacitors, which in turn generate power for the device in question. Interestingly, the technology can only safely pump 1900W of wireless power in the room if it is being used, and the researchers say only 100W can be beamed continuously unless real-time power consumption tracking is employed.

So, is Disney's wireless charging technology destined to remain the lab? The researchers are

confident this is not the case, insisting it can be scaled up and down from "small charging cabinets" to "large-scale warehouses potentially using multiple poles." The aluminium paneling might also be replaced with "modular panels or conductive paint," while windows or doors might not affect system performance too much. In other words, we will have to wait until further development takes place.

Watch Disney Research Quasistatic Cavity Resonance for Ubiquitous Wireless Power Transfer

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