

NASA tests space radar for finding buried victims

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Rescuers work amid the rubble of a building in construction that collapsed in Sao Paulo, Brazil, on August 27, 2013.

A portable radar device that can sense live victims beneath a collapsed structure was inspired by the same technology used to detect distant objects in space, NASA said Wednesday.

The prototype for the new tool was demonstrated for reporters by US

[space agency](#) experts who are collaborating with the Department of Homeland Security.

Known by the acronym FINDER, short for Finding Individuals for Disaster and Emergency Response, the device can locate people as many as 30 feet (nine meters) under crushed materials, NASA said.

"The ultimate goal of FINDER is to help emergency responders efficiently rescue victims of disasters," said John Price, program manager for the First Responders Group in Homeland Security's Science and Technology Directorate in Washington.

"The technology has the potential to quickly identify the presence of living victims, allowing rescue workers to more precisely deploy their limited resources."

In open spaces it can reach further, detecting people at a distance of 100 feet (30 meters).

Behind solid concrete, the device works as far as 20 feet (about six meters).

The technology is more advanced than present radars, whose signals can be hard to decipher in a typical building collapse because they bounce off the multiple surfaces and angles.

FINDER uses advanced algorithms to "isolate the tiny signals from a person's moving chest by filtering out other signals, such as those from moving trees and animals," NASA said.

A similar technology is used by NASA's Deep Space Network to locate spacecraft.

"A [light wave](#) is sent to a spacecraft, and the time it takes for the signal to get back reveals how far away the spacecraft is," NASA said.

NASA's Deep Space Network also uses the technique to track its Cassini spacecraft as it orbits Saturn on a mission to learn more about the planet's rings.

"Detecting small motions from the victim's heartbeat and breathing from a distance uses the same kind of signal processing as detecting the small changes in motion of spacecraft like Cassini as it orbits Saturn," said James Lux, task manager for FINDER at NASA's Jet Propulsion Laboratory.

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