

# Using Contact Doppler Radar to Monitor PA Pressure in Heart Failure Patients

Tech ID: 33691 / UC Case 2020-038-0

## ABSTRACT

Researchers at the University of California, Davis and Cardiac Motion LLC have collaborated to develop a method for monitoring heart failure using contact Doppler radar.

## FULL DESCRIPTION

Heart failure is a common condition associated substantial morbidity, mortality, and health-care costs. In patients suffering from heart failure, measuring pulmonary artery (PA) pressure is important for monitoring the condition. Monitoring PA pressure allows patients to receive the most appropriate treatment for their heart failure, and has been shown to improve patients' quality of life. Unfortunately, traditional methods for monitoring PA pressure require invasive, permanently implanted devices. An effective, noninvasive method for monitoring PA pressure is highly desirable.

Researchers at the University of California, Davis and Cardiac Motion LLC have collaborated to develop a method for monitoring heart failure using contact Doppler radar. By providing a true interpretation of heart movements related to PA Pressure, this method allows for sensitive and non-invasive monitoring of PA pressure. This method has the potential to reduce hospitalizations and improve the quality of life of heart failure patients without a permanently implanted device.

## APPLICATIONS

- ▶ Monitor PA Pressure in heart failure patients.

## FEATURES/BENEFITS

- ▶ Non-invasive and non-permanent.
- ▶ Provides accurate tracking of heart motion.

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	<a href="#">11,647,978</a>	05/16/2023	2020-038
United States Of America	Published Application	<a href="#">20230385727</a>	11/30/2023	2020-038

Additional Patents Pending

## OTHER INFORMATION

Note: While this invention is available for individual licensing, it is designed to work synergistically with two other related inventions. Licensing all three together is recommended for optimal functionality and integration.

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## OTHER INFORMATION

### KEYWORDS

Doppler Radar, heart failure, pulmonary artery pressure, right ventricle, heart motion

### CATEGORIZED AS

- ▶ **Medical**
- ▶ Disease: Cardiovascular and Circulatory System

### RELATED CASES

2020-038-0

<https://techtransfer.universityofcalifornia.edu/NCD/33658.html>

<https://techtransfer.universityofcalifornia.edu/NCD/33690.html>

## **ADDITIONAL TECHNOLOGIES BY THESE INVENTORS**

- ▶ [Portable Heart Motion Monitor](#)
- ▶ [On-Chip Platform for Single-Molecule Electrical Conductance Measurements](#)
- ▶ [Absorptive Microwave Bandpass Filters](#)
- ▶ [Field Effect Bipolar Transistor](#)
- ▶ [Quarter-Rate Serial Link Receiver with Low Aperture Delay Samplers for High Data Rate Applications](#)
- ▶ [A Novel High-Qu Octave-Tunable Resonator And Filter With Lumped Tuning Elements](#)

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