
A Compact and Efficient Solution for Real-Time Muscle Monitoring

Problem

Wearable ultrasound technology enables real-time muscle movement analysis using non-ionizing radiation in a miniaturized form. However, current systems require skilled operators and complex image processing, limiting their practicality for widespread use.

Existing ultrasound systems are challenging to use due to the need for precise probe placement by trained professionals, computationally demanding image processing, and inaccuracies caused by probe movement during dynamic tasks.

Solution:

A wearable Doppler ultrasound system eliminates the need for complex imaging and specialized probe placement by directly measuring muscle velocity. This placement-agnostic approach allows for easier, more efficient monitoring of muscle movement in real-world applications.

Advantages:

- Permits compact and energy-efficient wearable design
- Eliminates need for complex image processing
- Real-time muscle velocity tracking improves rehabilitation monitoring and motion analysis
- Placement-agnostic design ensures consistent results without requiring precise probe positioning
- Reduces dependency on trained personnel, saving time and resources in clinical and athletic settings



For More Information contact:

George Mason University, Office of Technology Transfer
703-993-8933 ott@gmu.edu <https://ott.gmu.edu/>