



**CRANE**

## System and Method for Measuring Power Generated During Legged Locomotion

**Track Code:** CRANE-99838

**Categories:**

- Mechanical Engineering
- NSWC Crane

**Keywords:**

- Crane
- Mechanical Engineering
- Sensors

Current methods of monitoring systems focus on the metric of speed, distance traveled, and heart rate. However these conventional methods are flawed through their limitations arising from external factors such as dehydration, temperature, elevation, etc. Some conventional systems include an array of force sensors to measure speed, distance, or jump time of a user. Other conventional systems use accelerometers coupled to footwear to measure speed and distance.

Naval Surface Warfare Center, Crane Division (NSWC Crane), has patented a system and method to measure power during activities such as legged locomotion. In this technology, both force sensors and acceleration sensors are used to calculate the power generated by the body during legged locomotion. Power generated is a more useful factor to monitor than speed, acceleration or force. This method may be used by a plurality of different users including humans, animals, or legged machines, such as robots, which undergo legged locomotion.

**Advantages:**

- Reduces the effect of external factors on monitoring
- More accurate measure of the work being done

**Potential Applications:**

- Physical therapy
- Medicine
- Athletics
- Physiological research
- Robotics

**People:**

- Templeman, Robert E (Project leader)

**Intellectual Property:**

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