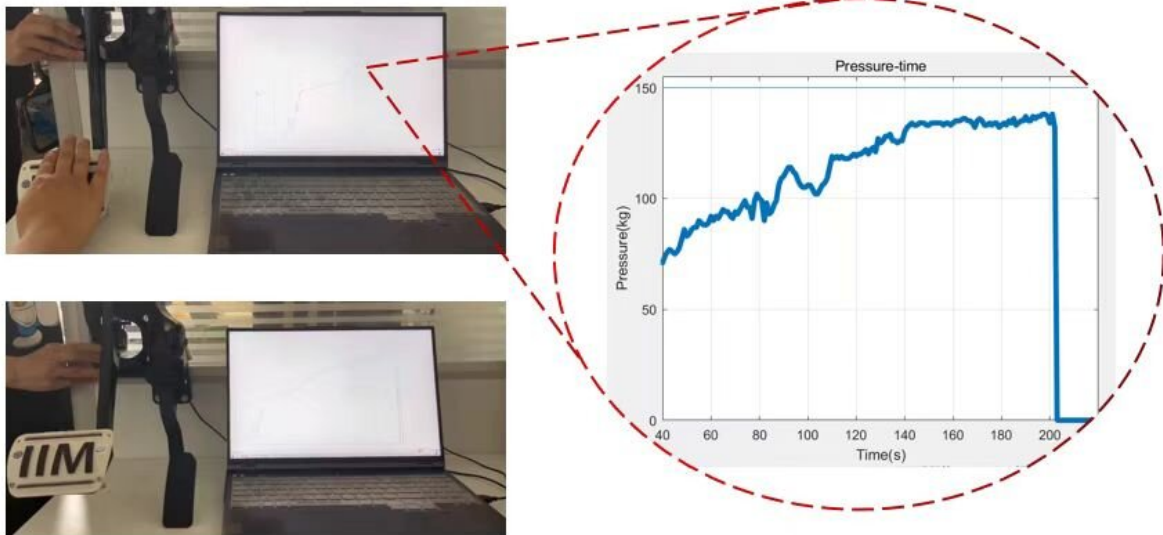


Scientists propose new solution to accurately record brake pedal actions

July 6 2023, by Zhang Nannan



Automobile Brake Pedal Recorder captures real-time data related to the driver's brake pedal behavior. Credit: KONG Deyi

Recently, a research team led by Prof. Kong Deyi from the Hefei Institutes of Physical Science of Chinese Academy of Sciences has invented an innovative product called the Automobile Brake Pedal Recorder to address the growing concern of accidents caused by braking problems, especially in electric vehicles.

The current method of detecting driver braking actions in new energy

vehicles relies on measuring the stroke of the [brake](#) pedal. However, if the brake pedal locks up, the driver's action of pressing the pedal goes unnoticed. To overcome this shortcoming, the team has developed the Brake Pedal Recorder.

The Brake Pedal Recorder acts as a brake 'black box', capturing [real-time data](#) about the driver's brake pedal behavior. It records essential information such as the time, intensity, and frequency of each brake pedal application. And the data is securely stored on a memory card.

Using the recorded information, it is possible to reconstruct the driver's braking actions during an accident. This provides valuable information on whether the driver applied the brakes with sufficient force, for the correct duration and at the correct frequency, helping to determine whether the accident was caused by driver error or by an actual malfunction of the braking system.

The recorder has a robust data storage capability that allows it to retain brake-related information for several years. Even in the event of a power failure, the recorded data remains intact due to its power failure resilience.

In addition, advanced encryption ensures that the stored data is protected from tampering, making it reliable evidence for third parties.

A key feature of the Brake Pedal Recorder is its affordability and easy to use. It can be easily installed directly on the brake pedal without compromising driving safety or affecting the driver's foot sensation when operating the brakes. The simplicity and effectiveness make it a practical solution for improving the safety of new energy vehicles and resolving disputes between drivers and car manufacturers over braking incidents.

With the introduction of this technology, the market can expect significant advances in the safety of new energy vehicles.

Provided by Chinese Academy of Sciences

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