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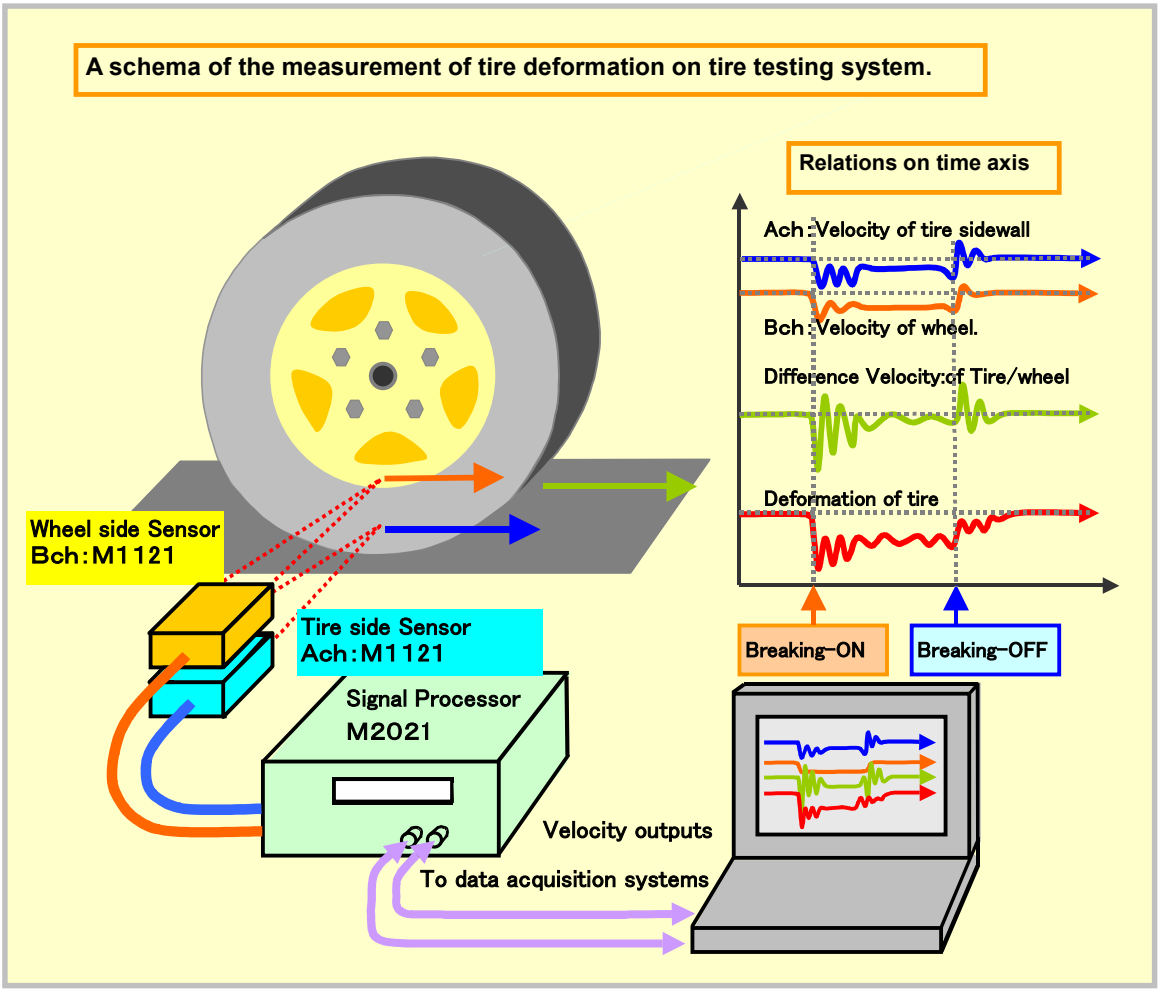
MODEL-2021 Application

Automobile: Measurement of the tire deformation under hard breaking.



The figure pictured above is a diagram of the measurement of **tire deformation** for automobile **under hard breaking** by using **2-channel Laser Doppler Velocity Meter MODEL-2021.**

The measurement of deformation amount is required in a tire testing system to check how a tire is deformed under hard breaking.
In recent automobile industry, high quality tire requires the various opposite functions for example both grip performance and reduction of friction loss.
A tire rotates **with complicated vibration**, therefore the analysis of rotating tire is very difficult.
For the measurement figured above, 2-channel simultaneous measurement is available for **detecting dynamic deformation** amount between a wheel and sidewall by integrating the difference of velocity **between two points**.

MODEL-2021 uses the **optical method** for velocity measurement. This method is Non-contact measuring system therefore the measurement does not require the alignment of axes and coupling such as for a rotary encoder.
The measurement result by using this system **has no interference from colors and any other status on the surface of the object,** and also this optical measuring method does not **apply any pressure on rotations**. This feature is available for detecting the variation of loading.
And compared with a high-speed camera, **Laser Doppler system is easy and low price for speedy and quality measurement**, without complex calculation process.
And having an analog velocity output, wow-flutter output, and wow-flutter calculation output, it is capable of connecting a FFT analyzer, data storage system, or a signal processing system.
In the automobile field, o**ur Non-Contact measuring system is one of the best method for providing high quality tires** at this time.