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## Developing Intelligent Tyre Based on Finite Element Analysis and Experiments

### Challenges

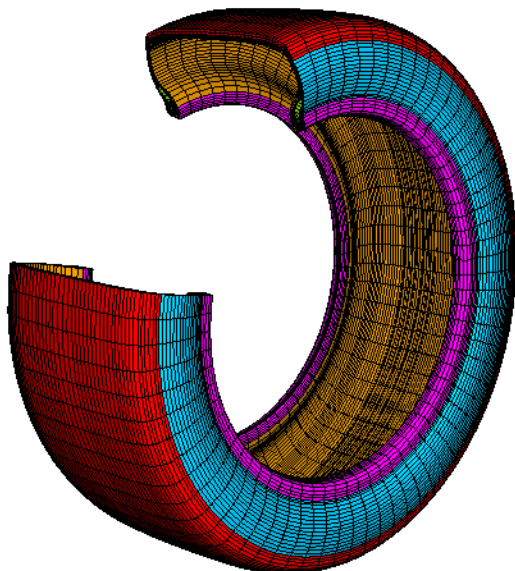
To develop a strain-based intelligent tyre system which can provide in time tyre information such as force and friction to improve vehicle safety, driving control and ride comfort, etc.

### Background

Tyre problem has become a main factor inducing traffic accidents in the past decades. As the only interface between vehicle and road, it provides the support for vehicle weight, cushions the irregularities transmission and is responsible for traction, braking and direction stability.

### Results

In this study, the finite element tyre model has been built using ABAQUS and validated by experiment successfully. The prototype construction of strain-based intelligent system is undergoing and further experiments will be carried out for establishing the estimation algorithm of intelligent tyre system.



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#### Product Used

SIMULIA ABAQUS

#### Funding

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