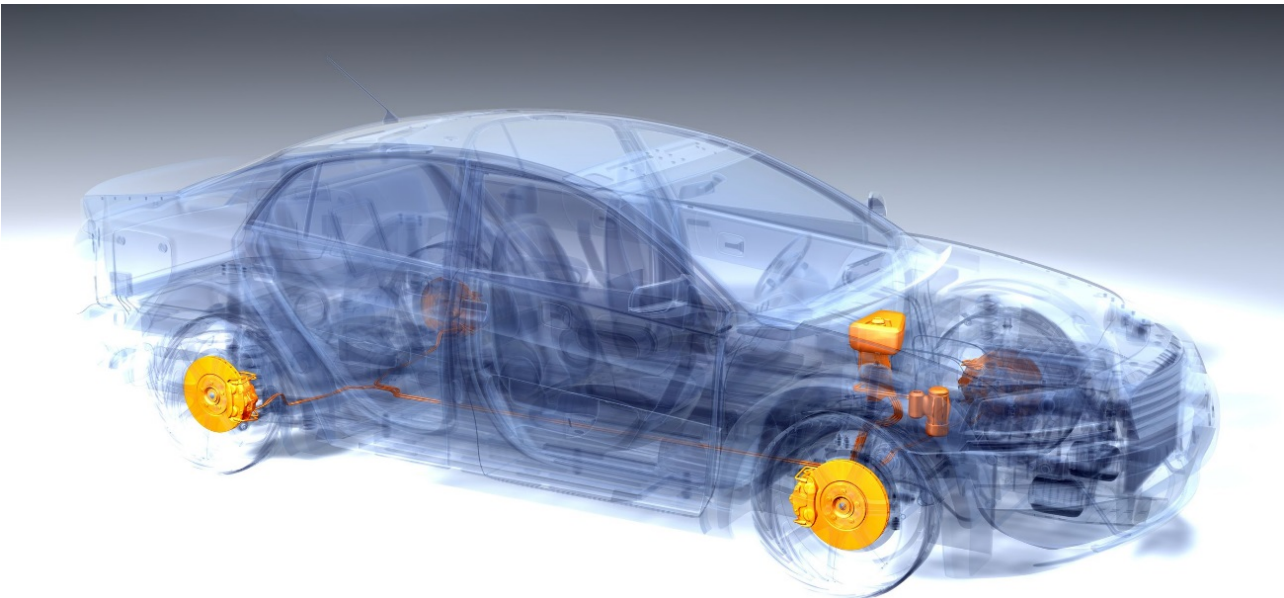


## *Wheel slip reset controller for brake systems*

**Inventors:** Emma Delgado Romero, Antonio Barreiro Blas and Miguel Díaz-Cacho Medina.

### ***Description***

To maximize the benefits of the implementation of new technologies in brake systems such as electromechanical brake actuators and a brake-by-wire system, it is necessary to count with slip controllers, since they will act as independent brake forces in each of the wheels.



In this sense, the wheel slip controller can be used for several high level control modules, such as antilock braking systems (ABS), anti-slip systems, traction control (TC), vehicle stability control (VSC), electronic stability protocol (ESP) and advanced driver assistance systems (ADAS), among others.

The application of reset controllers will lead to an improvement of the robustness and performance of the system. This improvement implies the reduction of the braking distance and a better tire and road friction maximum.

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### ***Innovative aspects and advantages***

The proposed wheel slip reset controller is a versatile controller with a simple design, that improves performance and robustness simultaneously:

- It decreases the braking distance while maintaining as far as possible the driving characteristics of the vehicle.
- It prevents locks and unstable slips.
- It is robust against changes in the road conditions and technological limitations such as model uncertainties, actuator saturation and bus time delay.
- It improves the estimation of the maximum friction between tire and road.

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### ***Commercial applications and potential users***

Industrial partners involved in technological advances in automotive, road and aeronautics vehicles.

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### ***Patent status***

National and PCT application (P201400003, PCT/ES2014/000173)

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### ***Type of collaboration***

Industrial partners are being sought to collaborate through a patent license.

