

ABSTRACT

An in-vehicle stable platform system employing active suspension and a control method thereof is provided. The system includes a vehicle body, an in-vehicle stable platform, an inertial measurement device, an electronic control device, a servo controller set, multiple wheels, and suspension servo actuation cylinders and displacement sensors respectively corresponding to the wheels. The wheels are divided into three groups, which form three support points. The heights of the three support points are controlled to control orientation of the vehicle body. An amount of extension/retraction of the suspension servo actuation cylinders required to cause the in-vehicle stable platform to return to a horizontal level is calculated according to a measured pitch angle and a roll angle of the in-vehicle stable platform, and when a vehicle travels on an uneven road, the extension/retraction of each suspension servo actuation cylinder is controlled to cause the in-vehicle stable platform to be horizontal.

<Fig. 1>