Special features of pavement design in the weight sensor placement area

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Mechanical interaction of automobiles and road surface has to be simulated in order to prevent structural deformation of the road and to increase the pavement strength in places where weigh sensors are deployed. We developed a special program that interacts with CAE system ANSYS. It automates engineering analysis of the road surface. We considered three types of sensors for a single pavement configuration and carried out an engineering analysis at different ambient temperatures. The results include stress distributions in the pavement as well as the areas of surge and the branching ration. The developed program is capable of simulating any pavement, sensor, wheel configuration.

Keywords*: automation, pavement, strength, weight sensor, power branching ratio, ANSYS*

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