

Title (en)

SYSTEMS FOR DETECTING PHYSICAL PROPERTY CHANGES IN AN ELASTOMERIC MATERIAL

Title (de)

SYSTEME ZUR ERKENNUNG VON VERÄNDERUNGEN PHYSIKALISCHER EIGENSCHAFTEN IN EINEM ELASTOMEREN MATERIAL

Title (fr)

SYSTÈMES POUR DÉTECTER DES CHANGEMENTS DE PROPRIÉTÉS PHYSIQUES DANS UN MATÉRIAU ÉLASTOMÈRE

Publication

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Application

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Abstract (en)

[origin: WO2022086611A1] Systems for detection of tire strain in a vehicle are disclosed. In some implementations, the system may include an antennae disposed on one or more of the vehicle or a vehicle component and may output an electromagnetic ping. The system may include a tire with a body formed of one or more tire plies. Any one or more of the tire plies may include split-ring resonators (SRRs). Each SRR may have a natural resonance frequency that may proportionately shift in response to a change in an elastomeric property of a respective one or more tire plies, the elastomeric property including one or more of a reversible deformation, stress, or strain. The SRRs may include SRR with carbon particles that may uniquely resonate in response to an electromagnetic ping based at least in part on a concentration level of the carbon particles within the SRR.

IPC 8 full level

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