

# AUTOMATED TIRE INSPECTIONS UTILIZING FLUORESCING NANO-PARTICLES

## ABSTRACT

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Methods and systems are provided for monitoring a structural health of an object. A state of fluorescence of at least one particle associated with the object is identified, and a structural health parameter associated with the object is determined based on the identified state of fluorescence of the at least one particle. In one embodiment, a tire (100) is embedded with  
10 fluorescing nano-particles (152,154,156), which are exposed during the operation life of the tire. Such exposure, in combination with appropriate stimulation, will induce the nanoparticles into a state of fluorescence. As such, a color and/or an intensity of the fluorescing emission may be indicative of structural health of the tire.

15 FIG. 1