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16. Abstract  <p>Because of their unique functions and place on a vehicle, tires have the potential to become a more integral part of active and intelligent autonomous vehicles than has been the case for human-controlled conventional vehicles over the past century. This brief white paper touches upon several needs that future tires may be able to address, or at least, assist with. The tire solutions to the various needs fall into two main tire categories:</p> <ul style="list-style-type: none"> <li>• <i>Active tires</i> (tires that are able to “do something” dynamically in response to environmental or vehicular conditions or changes in the state of the tire itself), and</li> <li>• <i>Intelligent tires</i> (tires that are instrumented and able to “sense something” about the state of the tire itself or the immediate environment where the vehicle is operating, and communicate this information to the higher-level system operating the vehicle to optimize its performance).</li> </ul> <p>The nature of the discussion in this paper is forward-looking, and some of the concepts are still in the developmental stages. Therefore, while some of the discussed concepts will prove to be the most ideal or cost effective solutions to the needs of an autonomous vehicle, others will not.</p>					
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