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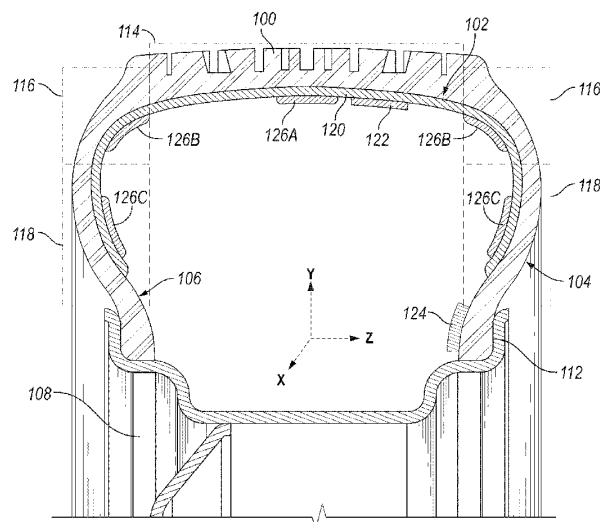


FIG. 1

(57) Abstract: A sensor module for estimating one or more parameters of a tire, the sensor module including a detector patch comprising a contact patch and a sidewall patch each having one or more extensible capacitors that have an electrostatic capacity that is variable due to at least deformation of the respective one of the contact patch and the sidewall patch, and a power source, an electronics unit in electronic communication with the power source and the detector patch and configured to control the sensor module, wherein the detector patch is configured to be adhered to an inside of a tire so that the contact patch contacts an inside of a tread portion and the sidewall patch contacts an inside of a sidewall portion and the electronics unit is configured to estimate at least one of the parameters of the tire using the electrostatic capacity of the one or more extensible capacitors.

[Continued on next page]

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