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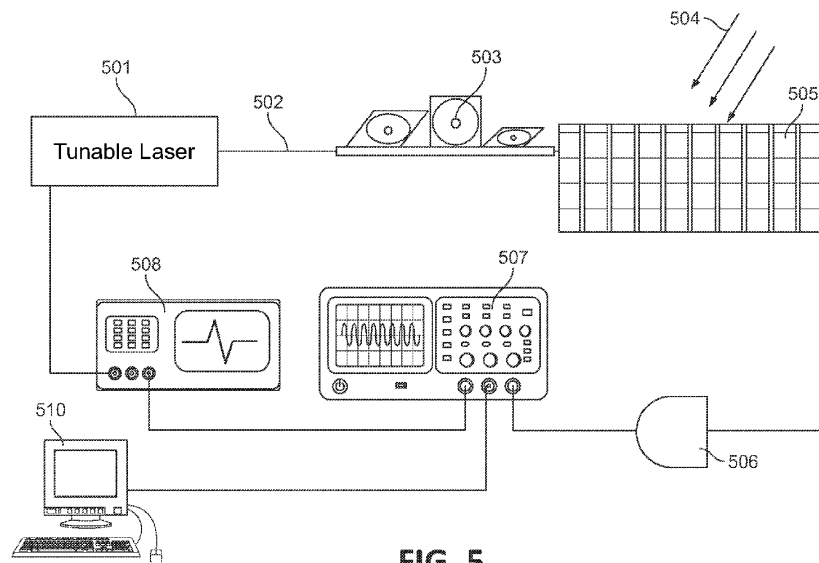


FIG. 5

(57) Abstract: An apparatus may include one or more optical fibers, one or more optical waveguides, and multiple resonator nodes arranged in an array of sensing locations. Each resonator node may include an optical coupling between an optical waveguide and an optical fiber having a set of resonant frequencies at a respective sensing location. Each resonator node may be further configured to communicate a set of signals corresponding to at least one shift in the set of resonant frequencies in the optical fiber at the respective sensing location.

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