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(54) Title: SYNTHETIC APERTURE IMAGING SYSTEMS AND METHODS USING MIXED ARRAYS

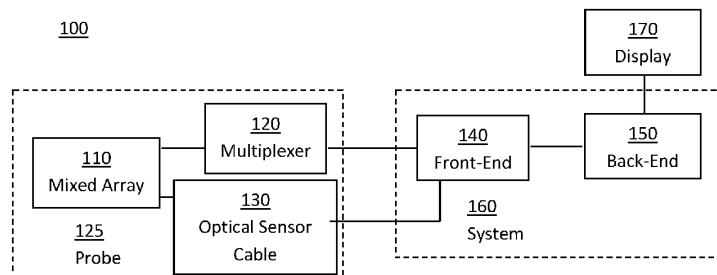


FIG. 1

(57) Abstract: A method of acousto-optic imaging may include receiving a first signal from a first sub-aperture of a sensor array. The first sub-aperture may comprise one or more array elements of a first type. The method may further include receiving a second signal from a second sub-aperture of the sensor array. The second sub-aperture may comprise one or more array elements of a second type different from the first type. In some variations, the first type of array element may be an acoustic transducer (e.g., piezoelectric transducer) and/or the second type of array element may be an optical sensor (e.g., optical resonator such as a whispering gallery mode (WGM) resonator). The method may further include combining the first signal and the second signal to form a synthesized aperture for the sensor array.

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