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(54) Title: LASER PROCESSING APPARATUS INCLUDING BEAM ANALYSIS SYSTEM AND METHODS OF MEASUREMENT AND CONTROL OF BEAM CHARACTERISTICS

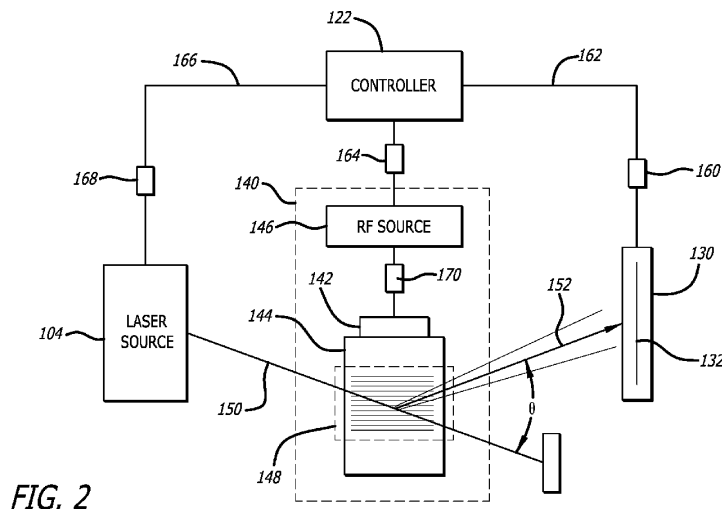


FIG. 2

(57) Abstract: Numerous embodiments of a laser-processing apparatus are disclosed. In one embodiment, the laser-processing apparatus includes a laser source operative to generate a beam of laser energy, an acousto-optic deflector (AOD) arranged within a beam path, a controller coupled to the AOD, and a beam analysis system operative to measure characteristics of the beam, generate measurement data representative of the measured beam characteristics, and transmit the measurement data to a controller operative to control the operation of the AOD based on that measurement data. In another embodiment, the laser-processing apparatus includes a system for characterization of cross-axis wobble of a galvanometer mirror, comprising a reference laser source configured to emit a reference laser beam, a reflective surface formed on the galvanometer mirror and configured to reflect the reference laser beam to a sensor configured

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to output a signal representative of the position of the reference beam to a controller.