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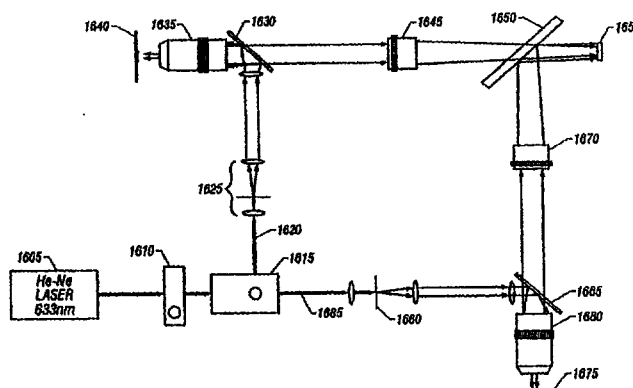
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(54) Title: IMPROVEMENTS TO ACQUISITION AND REPLAY SYSTEMS FOR DIRECT-TO-DIGITAL HOLOGRAPHY
AND HOLOVISION

(57) Abstract: Acquisition and replay systems for direct-to-digital holography and holovision are described. A method of recording an off-axis hologram includes: splitting a laser beam into an object beam (1620) and a reference beam (1685); reflecting the reference beam from a reference beam mirror (1675); reflecting the object beam from an illumination beamsplitter (1630); passing the object beam through an objective lens (1635); reflecting the object beam from an object (1640); focusing the reference beam and the object beam at a focal plane of a digital recorder (1655) to form an off-axis hologram; digitally recording and Fourier-transforming the off-axis hologram. A method of writing an off-axis hologram includes: passing a laser beam (1950) through a spatial light modulator (1975); and focusing the laser beam at a focal plane of a photorefractive crystal (1995) to impose a hologram. A method of replaying an off-axis hologram includes: illuminating a photorefractive crystal having a hologram with a replay beam (1915).

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