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(71) Applicant: **ELBIT SYSTEMS ELECTRO-OPTICS - ELOP LTD.** [IL/IL]; 5 HaMada St., 7670305 Rehovot (IL).

(72) Inventor: **MATZLIAH, Noam Yosef**; c/o Elbit Systems Electro-optics - Elop Ltd. 5 Hamada St., 7670305 Rehovot (IL).

(74) Agent: **JENCMEN, Avi** et al.; S. J. INTELLECTUAL PROPERTY, 24 Hanagar St., 4527713 Hod Hasharon (IL).

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(54) Title: ACTIVE IMAGING SYSTEM AND METHOD FOR ADJUSTABLE SELECTIVE DEPTH OF FIELD IMAGING

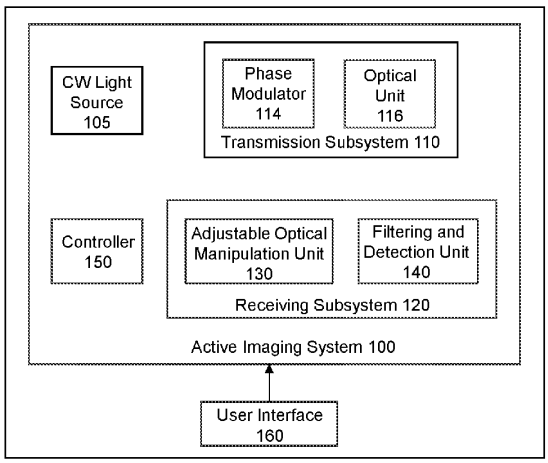


FIG. 1

(57) Abstract: An active imaging system includes transmission and receiving subsystems. The transmission subsystem comprises an optical phase modulator that is configured to phase modulate a coherent continuous beam. The transmission subsystem is configured, using the optical phase modulator, to generate and transmit at least one transmission beam that illuminates a scene, the transmission beam being a continuous repeated sequence of time-based spectrally differentiated transmitted light. The receiving subsystem is configured to perform at least one phase modulation for continuous manipulation of time-based spectrally differentiated return light reflected or scattered from multiple objects in at least part of the scene in order to image object(s) at one or more desired DoFs in the at least part of the scene, and to not image or image with a suppressed intensity object(s) at one or more undesired DOFs in the at least part of the scene.

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