THREE-DIMENSIONAL SENSOR WITH COUNTERPOSED CHANNELS

ABSTRACT

A method of determining dimensional information of a target surface includes generating a first point cloud corresponding to a first plurality of reconstructed surface points of the target surface generated by a first imaging system-illumination source pair (1302) of a phase profilometry system (1300); generating a second point cloud corresponding to a second plurality of reconstructed surface points of the target surface generated by a second imaging system-illumination source pair (1304) of the phase profilometry system (1300); generating an initial estimate of the target surface based on the first and second point clouds; and refining the initial surface estimate using positions of the first and second point clouds and geometry of the first and second imaging system-illumination source pairs (1302, 1034) to generate a final point cloud.

Fig 1