

POSITIONING SYSTEM FOR AERIAL NON-DESTRUCTIVE INSPECTION

ABSTRACT

Systems and methods for measuring the distance to a target object (102) and acquiring scale and point-to-point distance information for that target object in an environment using a remotely operated flying platform, such as an unmanned
5 aerial vehicle (UAV, 20). The system uses on-board sensors (132, 138, 166) and processing techniques to provide discrete or continuous measurements of the distances between points on the target object or the scale of the target object. The addition of on-board three-dimensional measurement capabilities to UAVs (or other flying platforms) allows the collection of distance data. Having this
10 capability enables these systems to acquire distances between points on a single object, such as determining the true scale factors of items in images captured by the UAV, in the course of performing metrology-related tasks.

Fig. 3