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(54) Title: THREE-DIMENSIONAL SENSOR WITH COUNTERPOSED CHANNELS

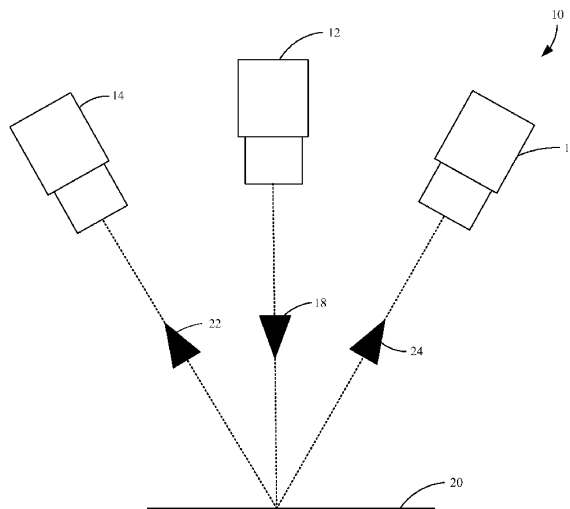


FIG. 1

(57) **Abstract:** An optical phase profilometry system (1300) includes a first operative coaxial camera-projector pair (1302) aligned at a first angle relative to a target surface (1318) that projects a first illumination on the target surface and a second operative coaxial camera-projector pair (1304) aligned at a second angle relative to the target surface that projects a second illumination on the target surface. Wherein the first and second angles are equal and opposite to one another relative to the target surface such that the second operative coaxial camera-projector pair (1304) is configured to capture a first reflection from the first illumination and the first operative coaxial camera-projector pair (1302) is configured to capture a second reflection from the second illumination. The optical phase profilometry system (1300) further includes a controller (1356) configured to, based on the captured first and second reflections, generate a first and second estimation of the target surface (1318) and combine them to generate a dimensional profile of the target surface (1318).

[Continued on next page]

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