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(54) **PROCESS FOR RADAR MEASUREMENTS OF THE MOVEMENT OF CITY AREAS AND LANDSLIDING ZONES**

(75) Inventors: **Alessandro Ferretti, Milan (IT); Claudio Prati, Milan (IT); Fabio Rocca, Milan (IT)**

(73) Assignee: **Politecnico di Milano, Milan (IT)**

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(58) **Field of Search** **342/25, 28, 114, 342/115, 189, 190, 191, 192, 194, 195, 196**

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Primary Examiner—John B. Sotomayor

(74) *Attorney, Agent, or Firm*—Nixon & Vanderhye, P.C.

(57) **ABSTRACT**

Process for radar measurements of movements of city areas and landsliding zones, characterised in that permanent scatterers are identified through the analysis of N-1 differential interferograms with respect to the same image (master), using a reference digital elevation model (DEM) with vertical precision better than 50 meters. For every pixel of the image selected on the statistical properties of the modulus of the reflectivity, a temporal series of the interferometric phases is generated. Then, differences among temporal series that belong to neighboring pixels are formed (differential temporal series). For every differential temporal series, the linear phase components are calculated in relation to the baseline and the phase components connected to the displacement model, already known, in relation to the time. The relative error between the precise elevation of the pixel and that supplied from the reference DEM is associated with the linear phase component of the differential temporal series in relation to the baseline.

3 Claims, 11 Drawing Sheets

