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Maeda et al.

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(54) **STRAIN MEASUREMENT APPARATUS,
LINEAR EXPANSION COEFFICIENT
MEASUREMENT METHOD, AND
CORRECTION COEFFICIENT
MEASUREMENT METHOD FOR
TEMPERATURE DISTRIBUTION DETECTOR**

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(58) **Field of Classification Search**
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See application file for complete search history.

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(57) **ABSTRACT**

A strain measurement apparatus includes: a stereo camera device that produces a first stereo image and a second stereo image of a measurement object; an actual strain calculation portion configured to find a three-dimensional configuration of the measurement object from the first stereo image and the second stereo image to find actual strain of the measurement object; a temperature distribution detector that detects a temperature distribution of the measurement object; a free thermal strain calculation portion configured to find free thermal strain of the measurement object from the temperature distribution detected by the temperature distribution detector; and a constraint strain calculation portion configured to find as constraint strain of the measurement object a difference obtained by subtracting the free thermal strain found by the free thermal strain calculation portion from the actual strain found by the actual strain calculation portion.

9 Claims, 12 Drawing Sheets

