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(71) Applicant (for all designated States except US):
**AGENCY FOR SCIENCE, TECHNOLOGY AND RE-
SEARCH** [—/SG]; 1 Fusionopolis Way, #20-10, Connex-
is, Singapore 138632 (SG).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **LIN, Wei** [CN/SG];
c/o Singapore Institute of Manufacturing Technology, 71
Nanyang Drive, Singapore 638075 (SG). **GOH, Lay,
Siong** [SG/SG]; c/o Singapore Institute of Manufacturing
Technology, 71 Nanyang Drive, Singapore 638075 (SG).
WONG, Lye, Seng [SG/SG]; c/o Singapore Institute of
Manufacturing Technology, 71 Nanyang Drive, Singapore
638075 (SG). **HEY, Heng Kiat, Jonathan** [SG/SG]; c/o
Singapore Institute of Manufacturing Technology, 71 Nan-
yang Drive, Singapore 638075 (SG). **CHAN, Ricky, Riy-
adi** [ID/SG]; c/o Singapore Institute of Manufacturing

Technology, 71 Nanyang Drive, Singapore 638075 (SG).
BRITNER, Roman [DE/SG]; c/o Singapore Institute of
Manufacturing Technology, 71 Nanyang Drive, Singapore
638075 (SG).

(74) Agent: **ELLA CHEONG SPRUSON & FERGUSON
(SINGAPORE) PTE LTD**; P.O. Box 1531, Robinson
Road Post Office, Singapore 903031 (SG).

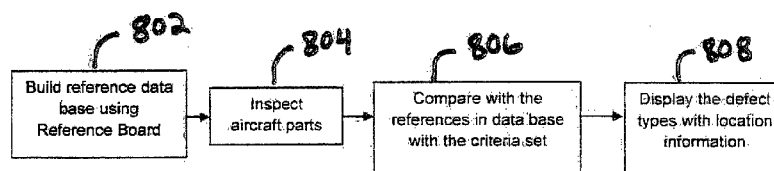
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(54) Title: METHOD AND APPARATUS FOR DEFECT DETECTION IN COMPOSITE STRUCTURES



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FIG. 8

(57) Abstract: Methods and apparatus for non-destructive testing of a composite structure utilizing sonic or ultrasonic waves. In response to a wideband chirp wave sonic excitation signal transmitted from a probe to the composite structure, a probe signal received is correlated with a library of predetermined probe signals and a graphical representation of defects detected is generated. The graphical representation provides detailed information on defect type, defect location and defect shape. Also contemplated is a probe for non-destructive testing of a composite structure comprising three or more transducers wherein each transducer is separately configurable as a transmitter or as a receiver; and a controller coupled to each of transducer for providing signals thereto and receiving signals therefrom, wherein the signals provided thereto include signals for configuring each transducer as either a transmitter or a receiver, and signals for providing an excitation signal from each transducer which is configured as a transmitter.