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(54) **Title:** NON-DESTRUCTIVE INSPECTION USING LASER- ULTRASOUND AND INFRARED THERMOGRAPHY

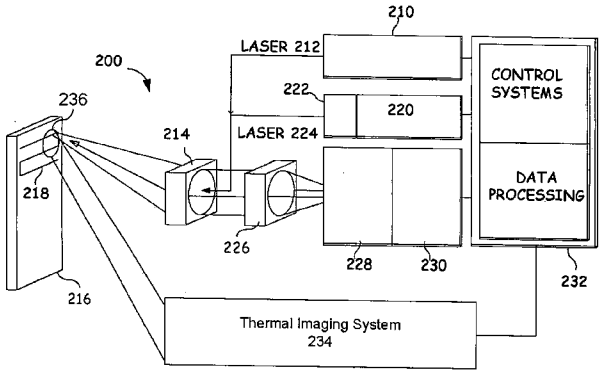


FIG. 2

(57) **Abstract:** An inspection system (200) is provided to examine internal structures of a target material (216). This inspection system includes a generation laser (210), an ultrasonic detection system (220, 226, 228, 230), a thermal imaging system (234), and a processor/control module (232). The generation laser (210) produces a pulsed laser beam (212) that is operable to induce ultrasonic displacements and thermal transients at the target material (216). The ultrasonic detection system detects ultrasonic surface displacements at the target material (216). The thermal imaging system (234) detects thermal transients at the target material (216). The processor (232) analyzes both detected ultrasonic displacements and thermal imagery of the target material (216) to yield information about the target material's internal structure. The target material (216) preferably comprises composite material.

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