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(54) Title: A NON-DESTRUCTIVE SYSTEM AND METHOD FOR DETERMINING THE QUALITY OF CHINESE HERB USING TERAHERTZ TIME-DOMAIN SPECTROSCOPY

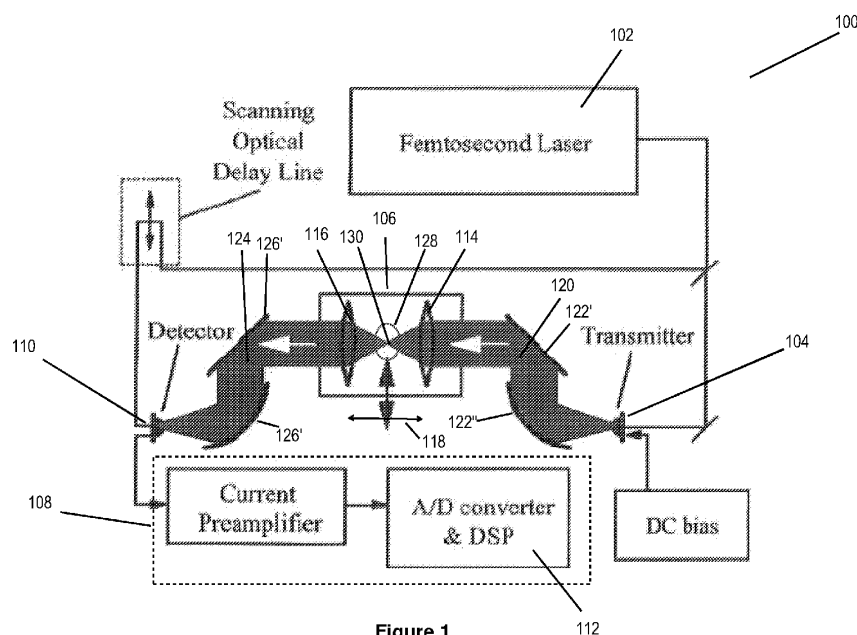


Figure 1

(57) Abstract: The present invention provides a system and a method for non-destructively determining the quality of Chinese herb housed in packaging using terahertz time-domain spectroscopy. The system comprises a femtosecond laser source (102), a transmitter (104), an optical system (106), a digital optical phase conjugation system (108), a detector (110) and a signal processing system (112). The method comprises illuminating THz radiation onto a surface of the Chinese herb housed in packaging, and collecting and measuring the THz radiation reflected from the surface of the Chinese herb. The THz radiation is then defocused onto at least one sub-interface of the Chinese herb housed in packaging and the THz radiation reflected from the sub-interface is collected and measured. The signals measured are subjected to Fast Fourier Transform and the data obtained is corrected by time domain delay. Spectral analysis and/or

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