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- (71) **Applicant:** THERMOSENSORIK GMBH [DE/DE]; Am Weichselgarten 7, 91058 Erlangen (DE).
- (72) **Inventors:** LANG, Haymo; Pettensiedel 21, 91338 Igensdorf (DE). MIELKE, Jochen; Am Heuweg 34, 71277 Rutesheim (DE).
- (74) **Agents:** KIRSCHNER, Klaus D. et al.; Bajuwarenring 21, 82041 Oberhaching (DE).
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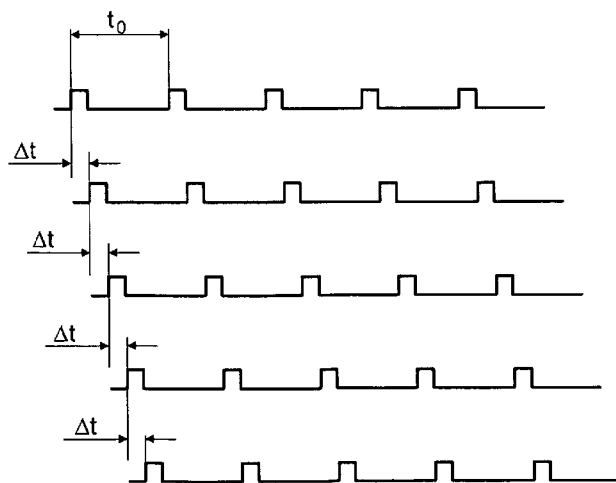
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- (54) **Title:** METHOD FOR EXAMINATION OF A SAMPLE BY MEANS OF THE HEAT FLOW THERMOGRAPHY

**Fig. 2**

(57) **Abstract:** The invention provides a method for a non-destructive, non-contacting and image forming examination of a sample by means of the heat flow thermography method where the examination consists of evaluating an existence and/or depth distance values of any heat flow velocity transitions below a surface of the sample, wherein the sample is excited by heat pulses of at least one excitation source, and a thermal flow originating therefrom is captured by at least one infrared sensor in an image sequence of thermal images, and wherein the thermal images obtained from the image sequence are evaluated by means of a signal and image processing and depicting a thermal flow with a resolution in time and in space. The method comprises: exciting the sample at least twice independently from each other by means of the heat pulses from the excitation source where a second excitation and any succeeding excitation is delayed with respect to a preceding excitation by a time delay whereby the start of the captured sequence happens at another defined point of time within the time between two images within an image sequence; detecting the respective total thermal flow processes generated by the at least two excitation processes of the sample by the infrared sensor in the independent image sequences containing the excitation as well as the thermal answer signal from the sample, combining all

captured image sequences to a total image sequence in which all images are arranged in a sequence which is correct in time with respect to the point of time of the pulse like excitation, and extracting from the total image sequence, in a manner known per se, an indication of the depth distance of a heat flow velocity transition from a surface of the sample. Therein, the heat flow velocity transitions can be a boarder layer of a layered material or defects in a substrate or below a surface of a work piece.