A biopsymeter to support the diagnostic procedure of skin samples

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ABSTRACT

We present an infrared biopsymeter to assist pathologists in the diagnosis of melanoma presence in skin biopsies. The designed and realized system combines the features of visual inspection and physical sensing to reduce false positives and false negatives occurring during standard histopathological analyses. The biopsymeter determines the CH2-stretch ratio by infrared absorbance measurements of skin biopsies. Investigations conducted with the biopsymeter shows that malignant melanomas and melanoma metastases have higher CH2-stretch ratio values compared to healthy skin tissues.

Keywords: Infrared spectroscopy, melanoma, skin biopsy, CH2-stretch ratio, biopsymeter.

"….A room temperature operating photodiode from IoffeLED, Russia, has been used to detect the infrared light transmitted by the thermal emitter…"