

INFLUENCE OF SPATIAL DYNAMICS IN BLOOD SUPPLY OF WOMEN'S BREASTS ON PRE-CLINICAL CANCER DIAGNOSTICS WITH CONTACT THERMOGRAPHY

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Abstract. Periodicity in blood supply of women's breasts was revealed and studied for the first time. We used the high-precision scanning contact DOT thermography in our study. The period revealed in blood supply changes is about one hour. The periodical variations deform the spatial pattern of the temperature field on the breast skin and can conceal the characteristic stationary pattern used for the pre-clinical diagnostics of breast cancer with the DOT method. The effect should be taken into account to improve the accuracy and specificity of the DOT method of screening breast cancer.

Keywords: breast, breast cancer, volumetric thermal diagraph, mammography, ultrasonic examination, magnetic resonance imaging scanner.