

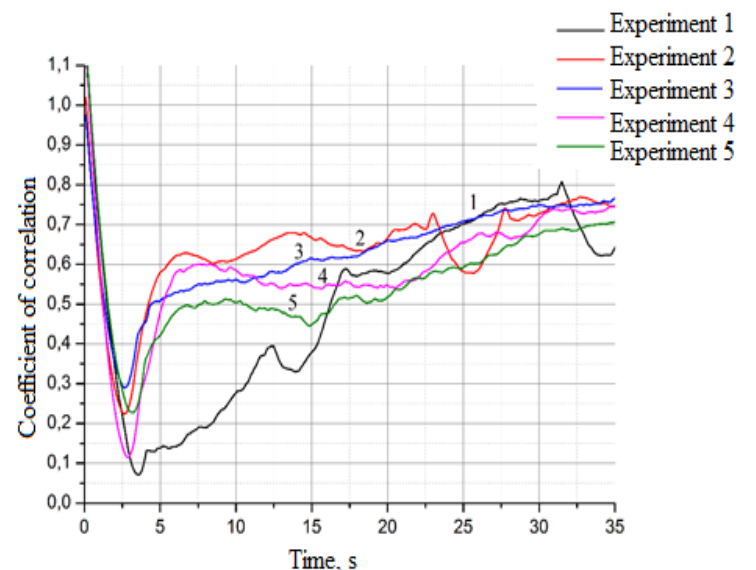
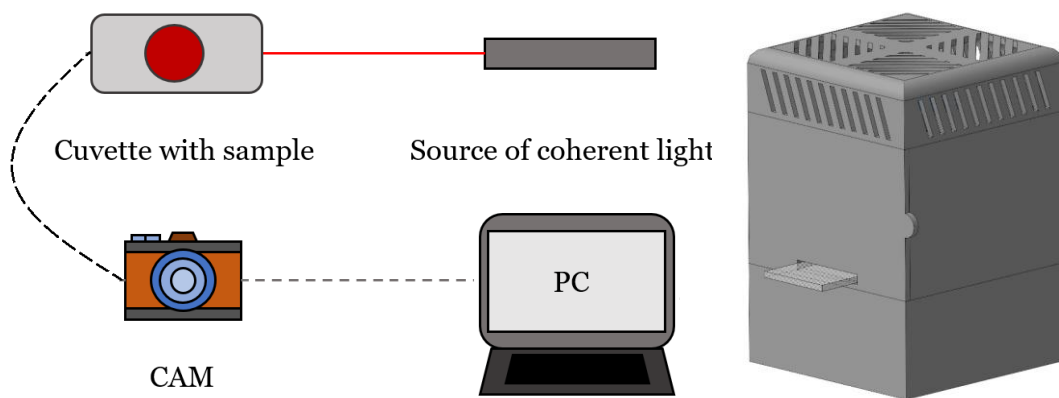
APPLICATION OF DIGITAL SPECKLE PATTERNS CORRELATION FOR BLOOD CLOTTING TIME EVALUATION

I.D. Liushnevskaya, F.A. Gubarev
National Research Tomsk Polytechnic University

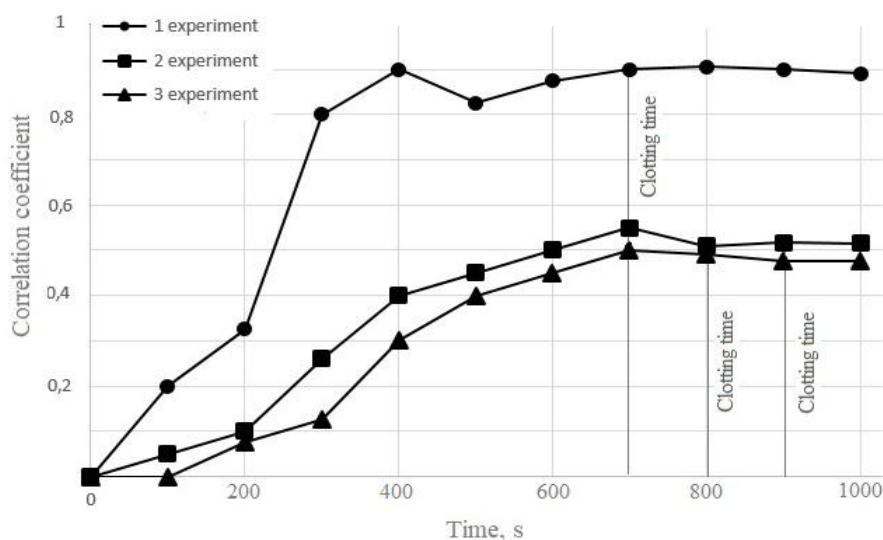
ABSTRACT

The paper shows the results of plasma and whole blood clotting time determination, using the method of Digital Speckle Patterns Correlation. Plots of correlation coefficient versus time have been presented and discussed. Analyzing the obtained results, we can say that the method of digital speckle patterns correlation can be used both for the analysis of the plasma prothrombin time and for aggregation activity of platelets in whole blood assessing.

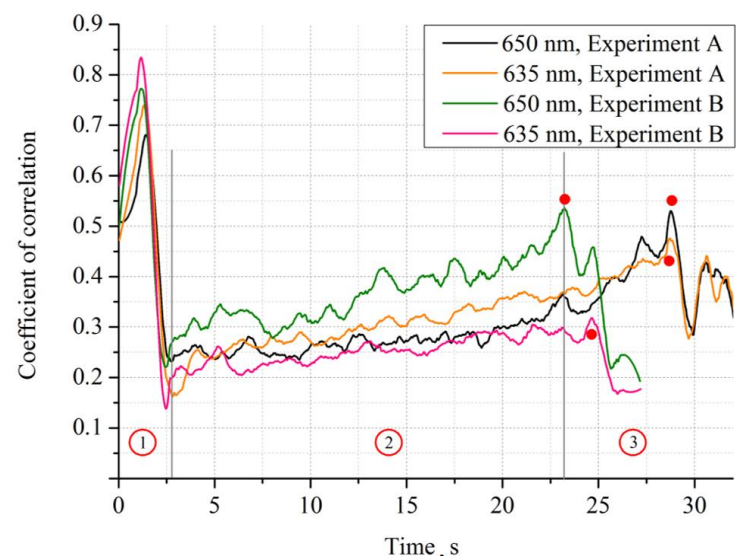
Experiment 1 – Plasma prothrombin time analysis



Experiment 2 – Blood clotting time analysis



Experiment 3 – Optimal wavelength determination



CONCLUSION

We have shown the possibility of digital speckle pattern correlation method applying to analyze the prothrombin time and the time of platelets in whole blood aggregation activity. Experiments were carried out to determine the optimal source of coherent radiation wavelength. Analyzing the obtained data, we say that the use of two wavelengths helps to reduce the measurement error.

CONTACTS

Iullia D. Liushnevskaya



juliasytnik55@yandex.ru