

Thesis Title	A Method of Red Blood Cell Flow Velocity Calculation Labeled with Fluorescence from Video Image for Blood Flow Velocity Measurement.
Thesis Credits	12
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Abstract

This thesis is to study and develop a technique for measuring the flow velocity of the fluorescent - labeled red blood cell viewed under the fluorescence microscope. The designed technique used the Moravec operator along with the information of the possible maximum and minimum velocity of the red cell flowing in the vessel to determine the position of each fluorescent - labeled red blood cell in each sampling frame. And the velocity of the fluorescent - labeled red blood cell was calculated from the distance of the fluorescent - labeled red blood cell in each adjacent pair of frame and the sampling period. The testing result from ten white rats blood vessels that recorded by video tape record yeild that the calculated red blood cell velocity from each blood vessels has an error. Mean of these error when compare to manual calculation is 3.18 ± 2.49 percent ($n = 10$).

Keywords : Red Blood Cell / Blood Vessel / Flow Velocity Calculation /
Blood Flow Velocity / Optical Flow / Moravec operator