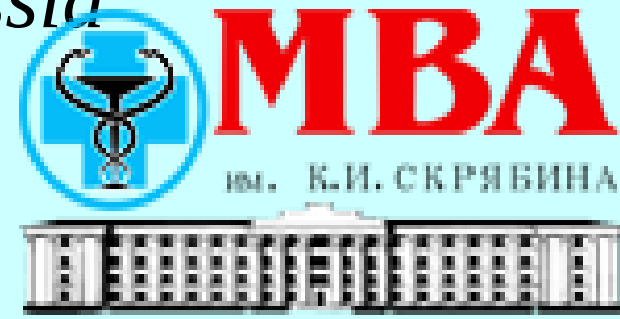


CHANGE IN ACID ERITHROGRAM OF LABORATORY ANIMALS IN CONSTANT ELECTRIC AND MAGNETIC FIELD

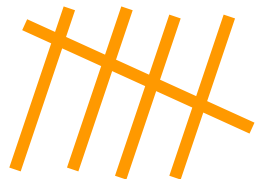
*Anna V. Novikova, Anna A. Oleshkevich,
Viktor E. Novikov*

*Skryabin Moscow State Academy of
Veterinary Medicine and Biotechnology
(Moscow SAVMB), Moscow, Russia*

kaffizmgavmib@mail.ru



RAD 2018

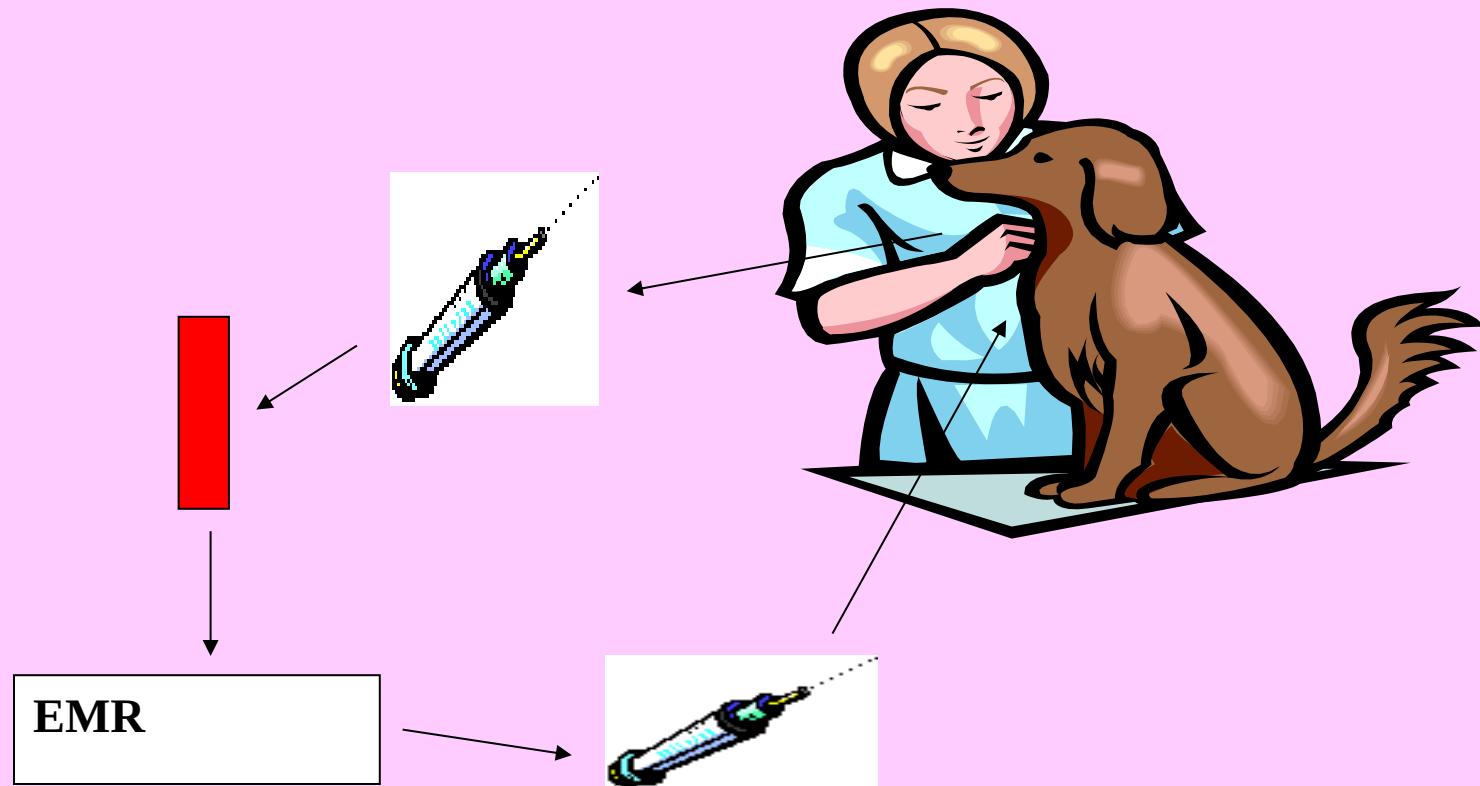


SIX INTERNATIONAL CONFERENCE
ON RADIATION AND APPLICATIONS IN VARIOUS FIELDS OF RESEARCH
12/06/ - 16/06/ 2018 | Slovenska Plaza | Budva | Montenegro

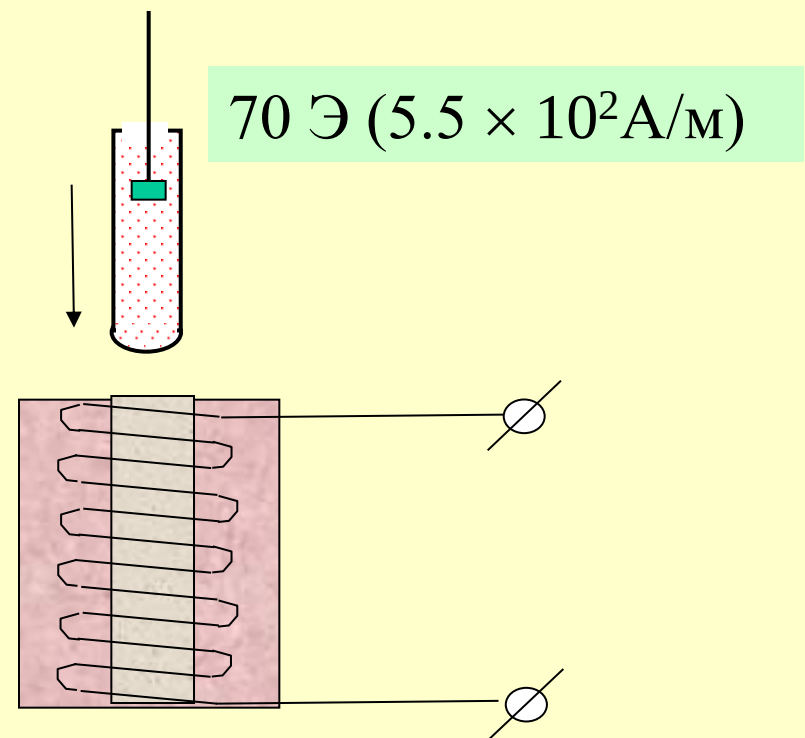
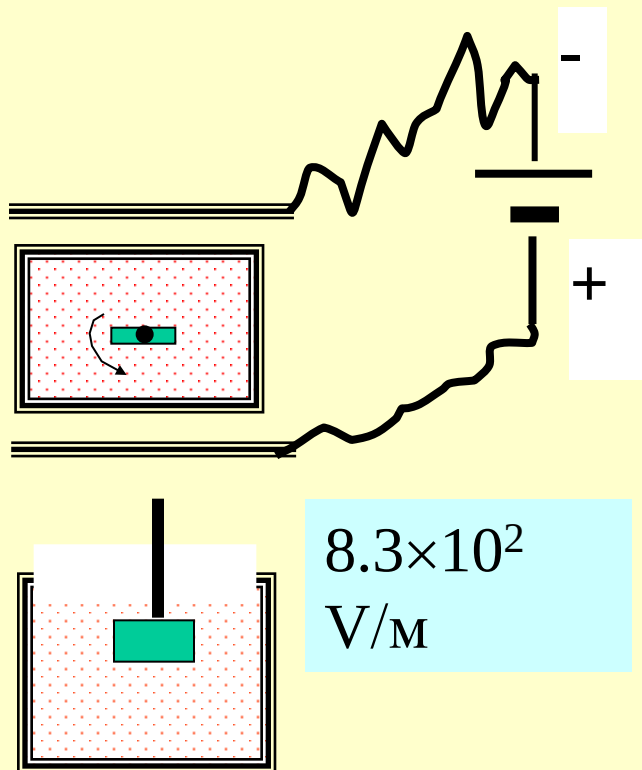
Section: Biophysics, Medical Physics



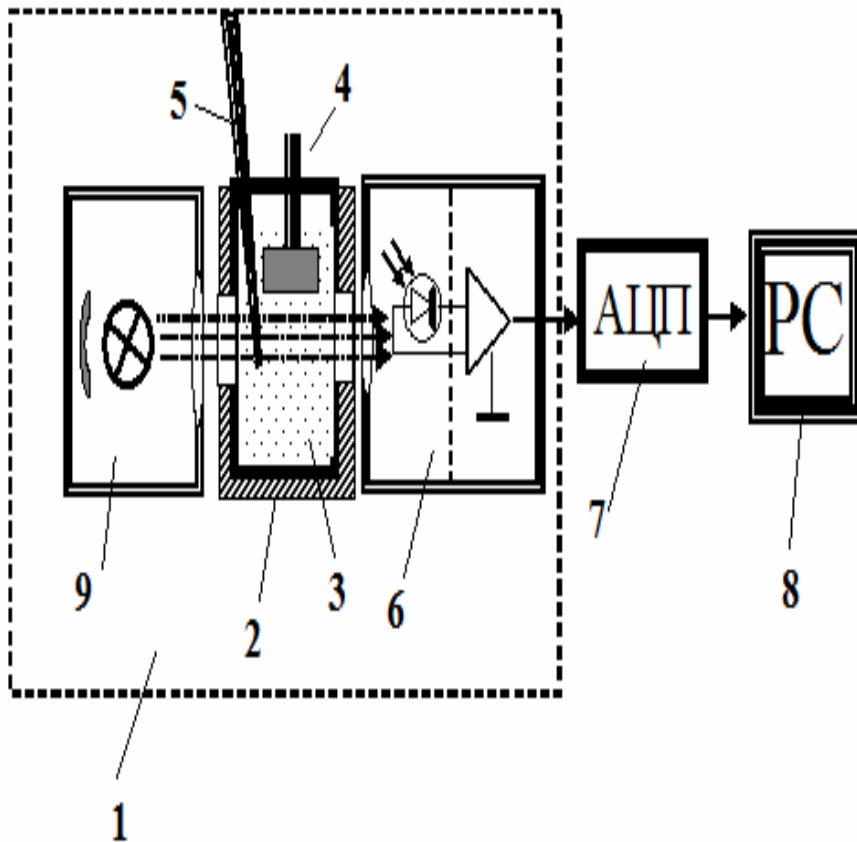
AUTOHEMOTHERAPY PENDULUM TYPE



effect of a constant electric and magnetic field on the suspension of red blood cells of laboratory rats

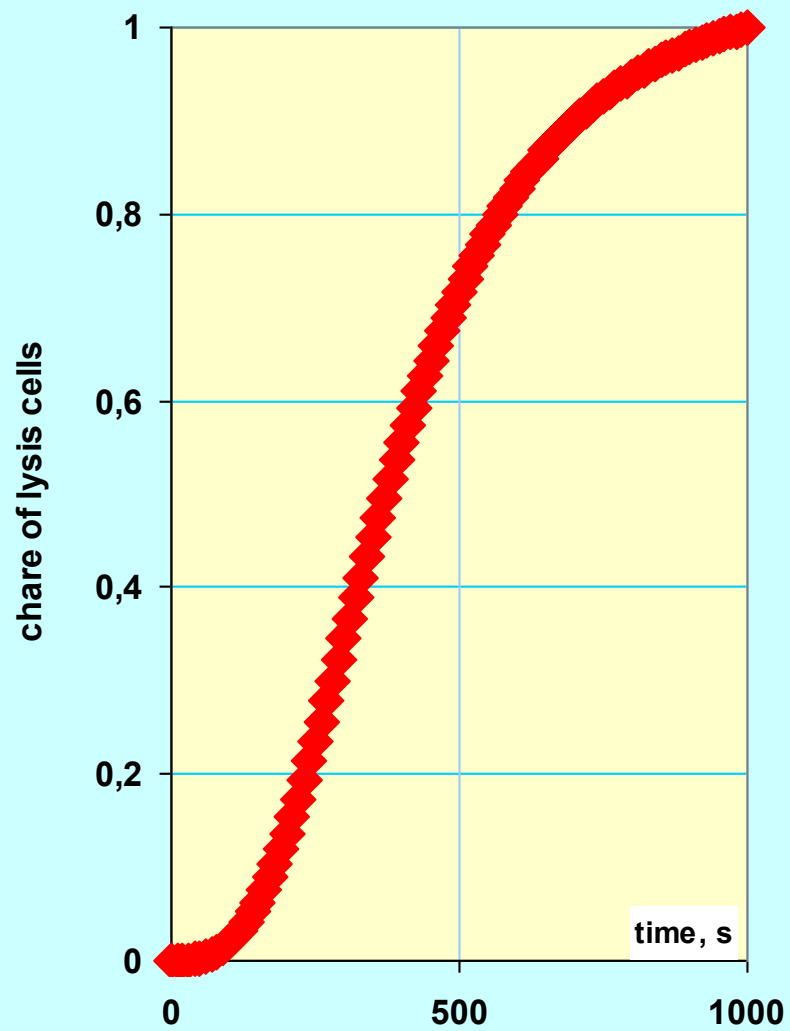


photoelectric turbidimeter

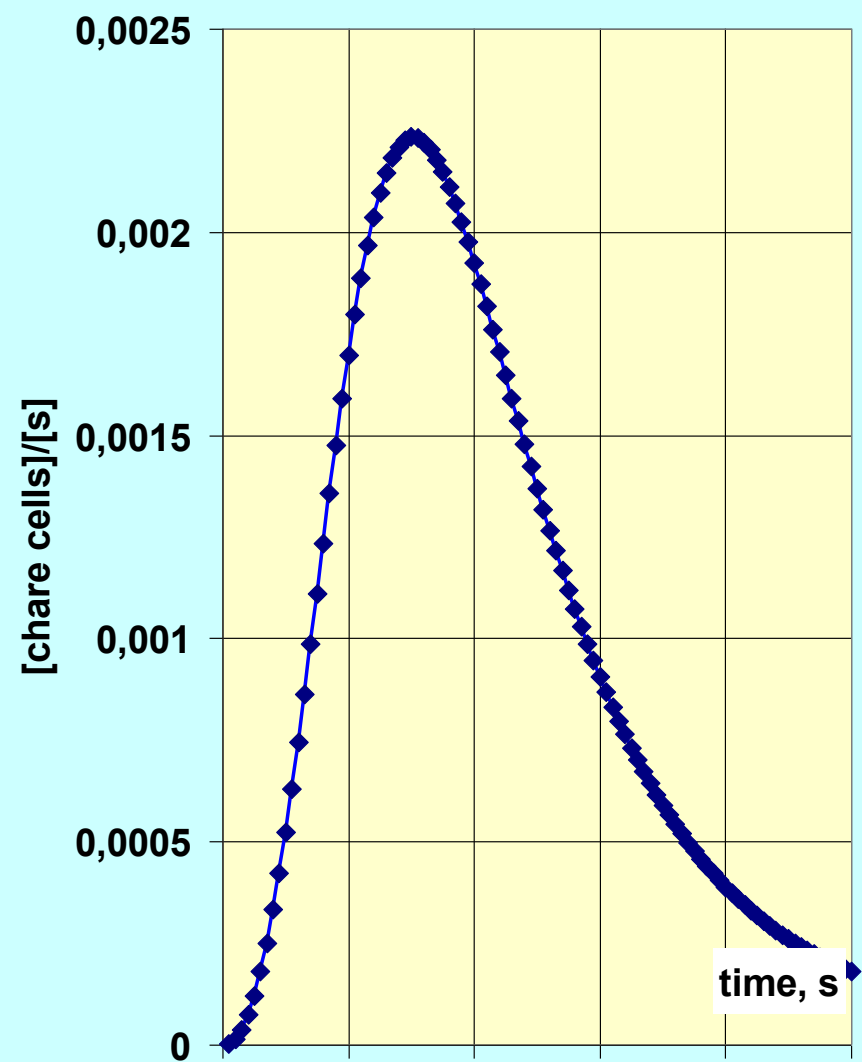


1 - photometer- turbidimeter; 2- cuvette's thermostatic water-jacket; 3- cuvette with suspension of erythrocytes; 4- mixer; 5- fitting for fluid supply; 6 - optical sensor block; 7 - analog-digital converter; 8 - recorder (PC+ software) ; 9 - light.

ACIDERITHROGRAM (cumulative)



ACIDERITHROGRAM (differential)



- *The resulting distribution of erythrocytes by acid resistance (histogram) was further analyzed by mathematical modeling. It was carried out by the histogram decomposing into the sum of 7 normal distributionsseries. To each private distribution corresponds one age group of erythrocytes.*

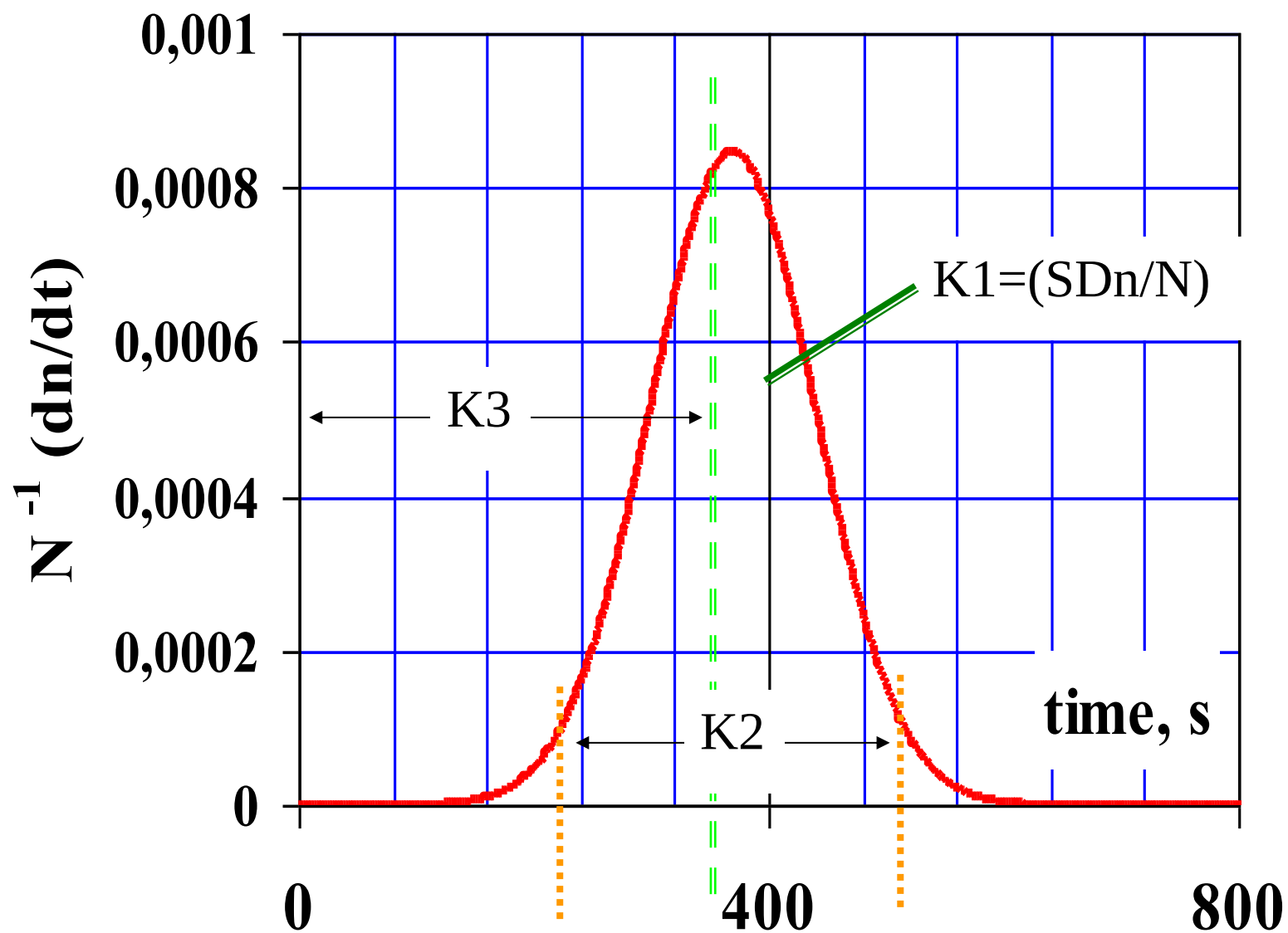
$$\frac{dn}{dt}(t_i) = \sum_{j=1}^{j=7} K_{1j} \times \frac{\sqrt{K_{2j}}}{\sqrt{\pi}} \times \exp[-K_{2j} \times (t - K_{3j})]$$

t - the time from preface hemolytic ;
($K1$, $K2$, $K3$) - characteristics distribution
.

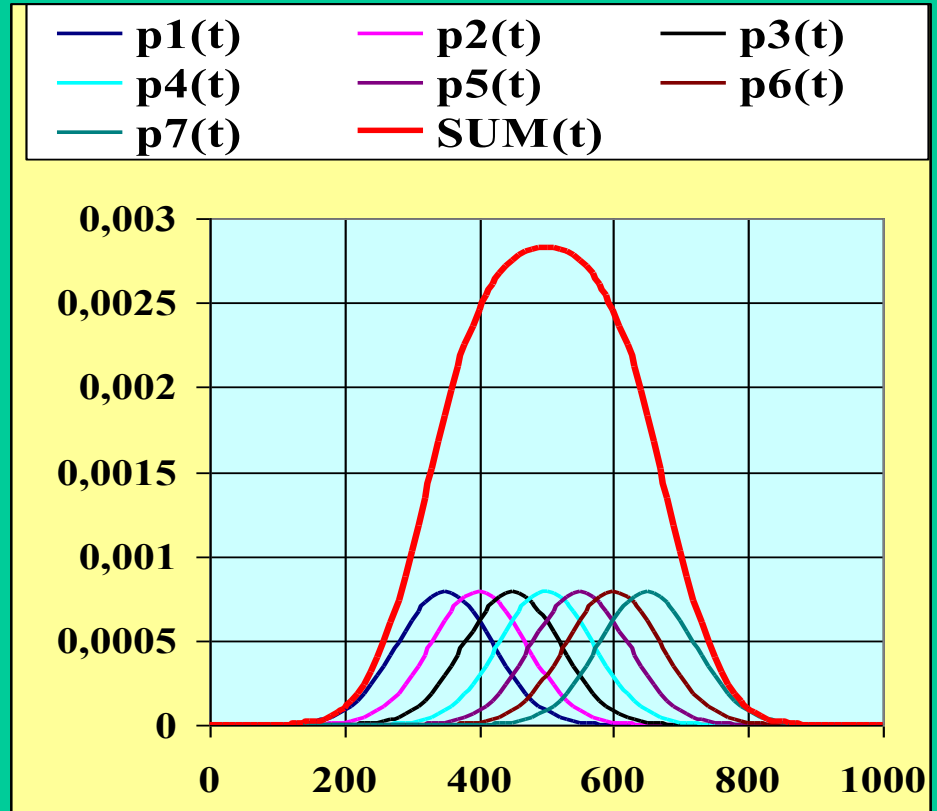
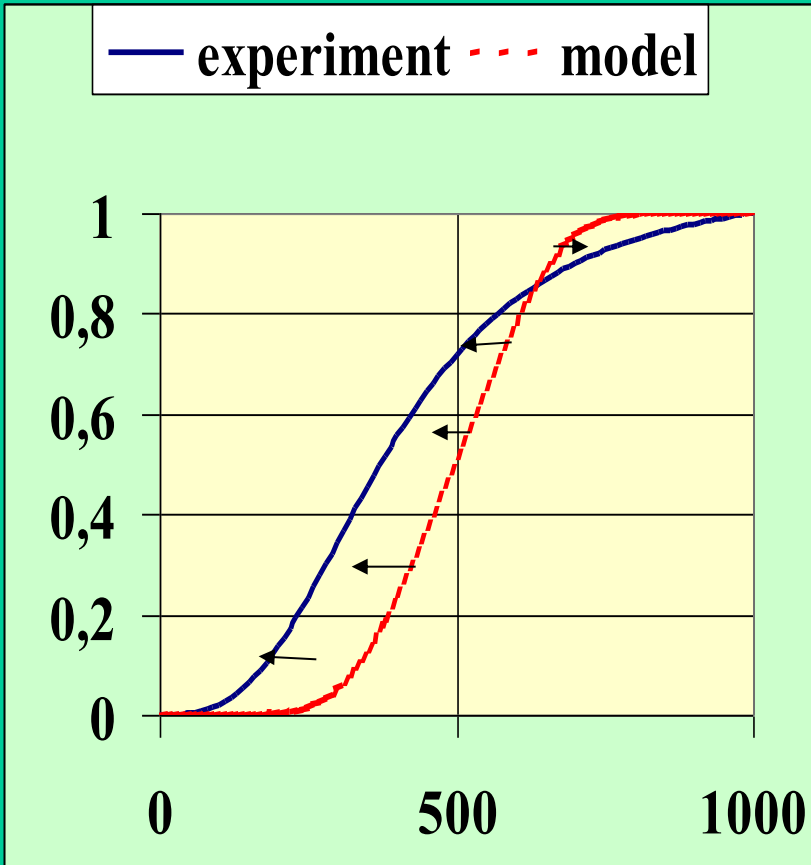
$K1$ - partial coefficient one group erythrocytes (the parts of total volume);

$K2$ - conform to dispersion value;

$K3$ - the size of time attainment maximum speed hemolysis one group erythrocytes.



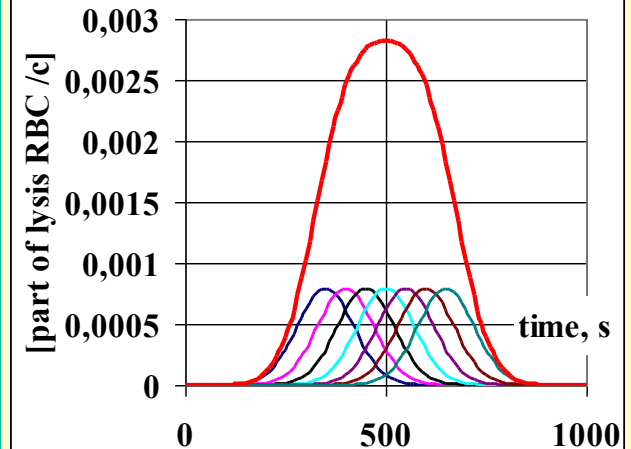
*mathematical modeling by the histogram decomposing
into the sum of 7 normal distributionsseries*



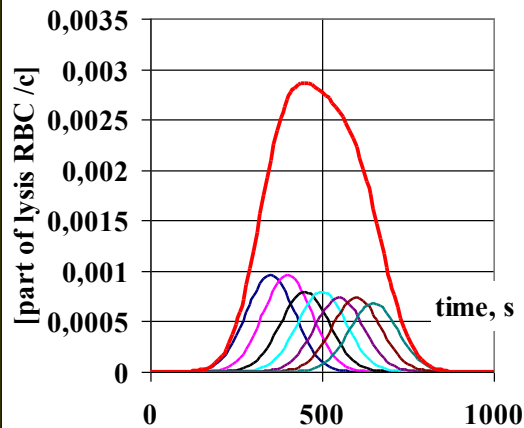
*The simulation erithrogram one
Method reduce to automatic
selection coefficient`s signifi-
cance $K1 - K3$ (soft method).
The coincidence simulation curve
and experimental
curve to hallmark adequacy
(to within width grass).*

- The change of differential ACID ERITHROGRAM after coercion CONSTANT ELECTRIC FIELD

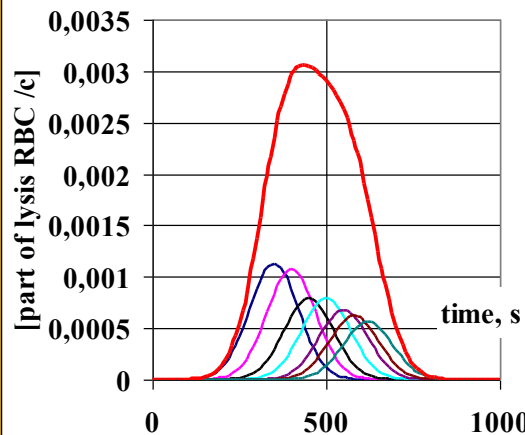
differential acid
erithrogram (control)



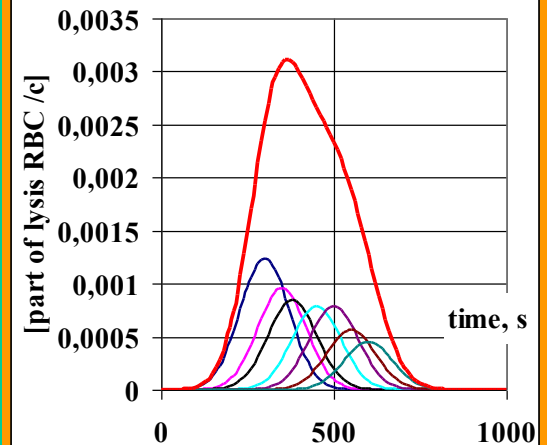
differential acid erithrogram (5
min influence ESF)



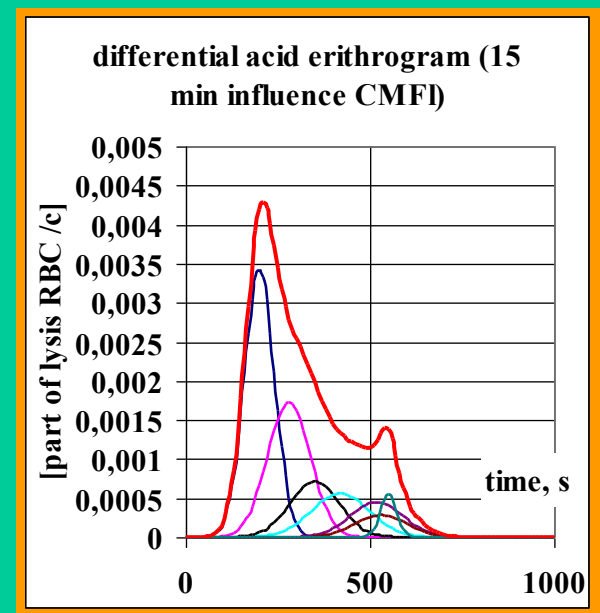
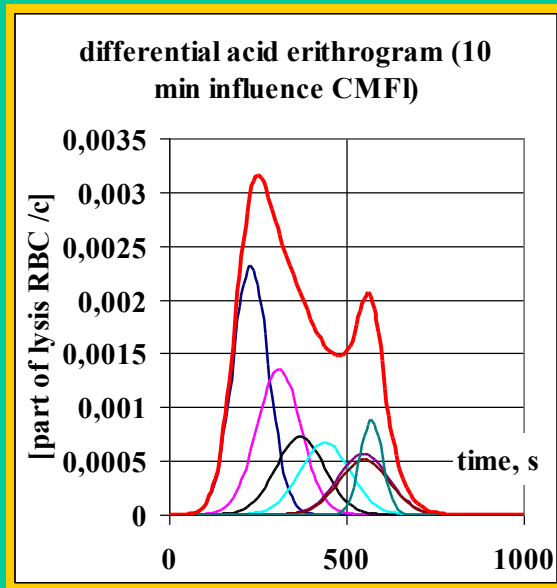
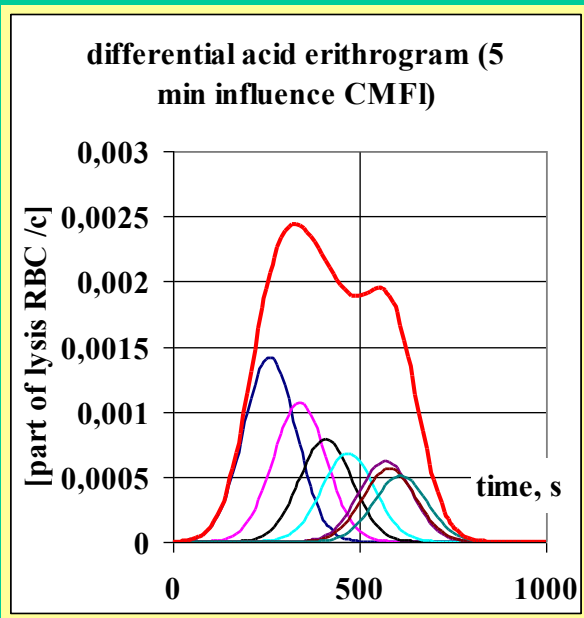
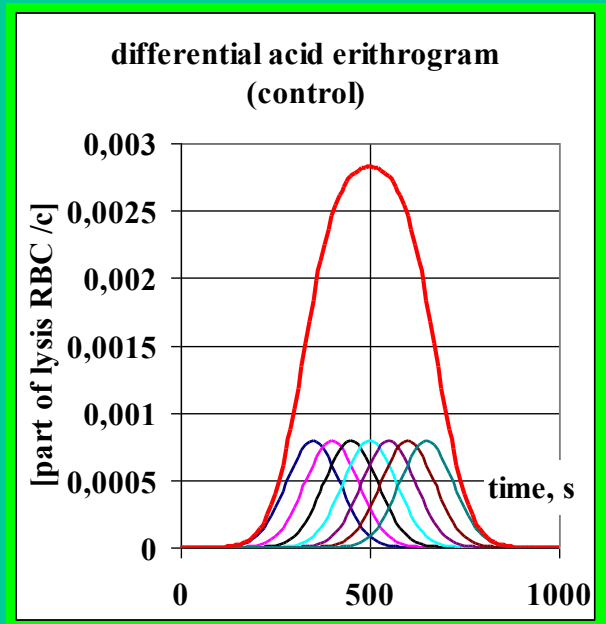
differential acid erithrogram (10
min influence ESF)



differential acid erithrogram (15
min influence ESF)



- The change of differential ACID ERITHROGRAM after coercion CONSTANT MAGNETIC FIELD



- The change of integral (experimental curve normalized to unit)
ACID ERITHROGRAM
after coercion
CONSTANT
MAGNETIC FIELD

