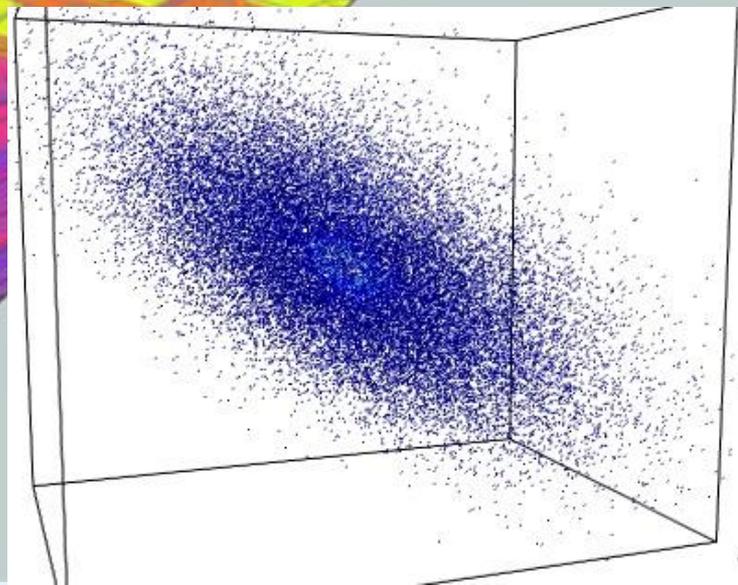
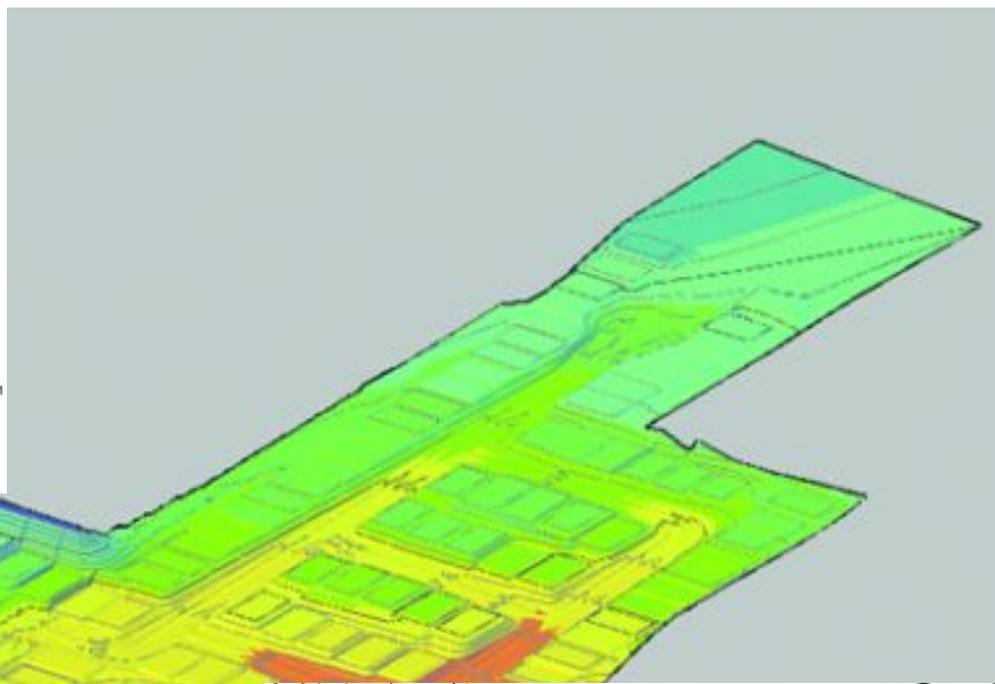
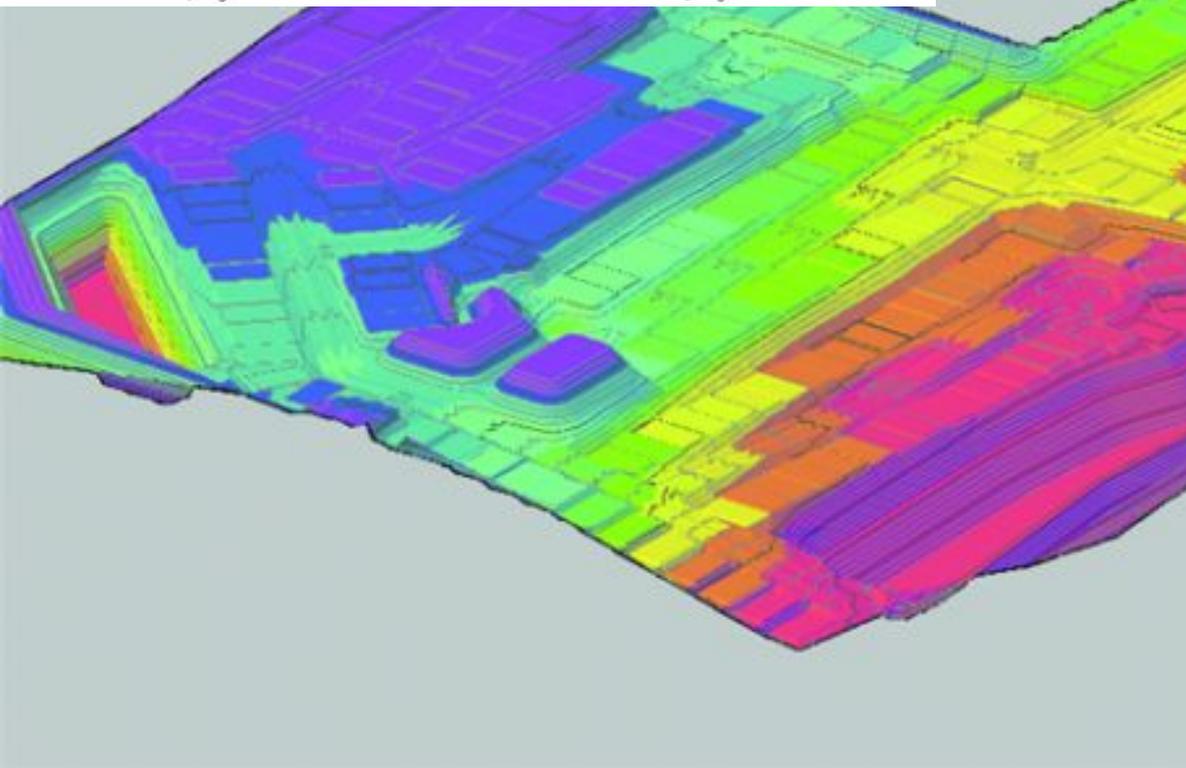
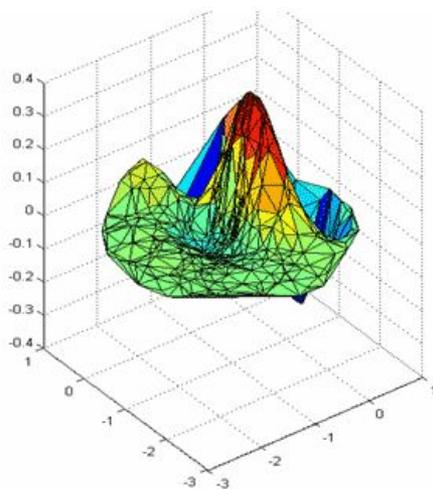
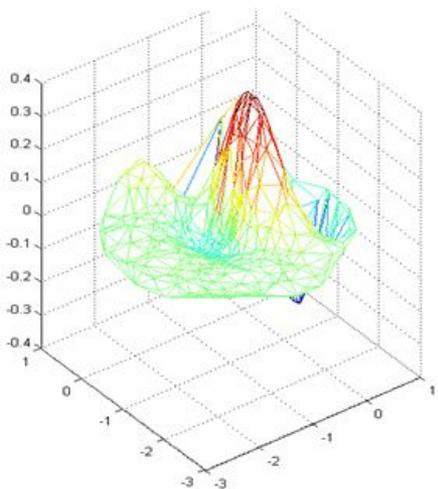
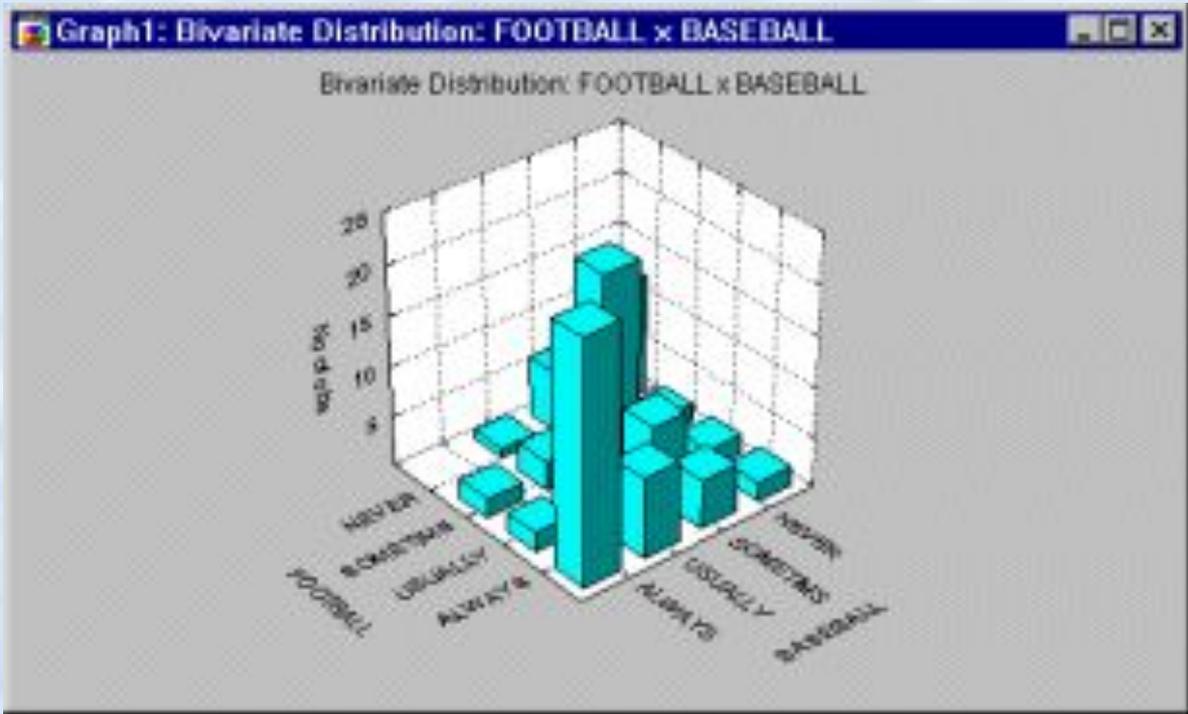
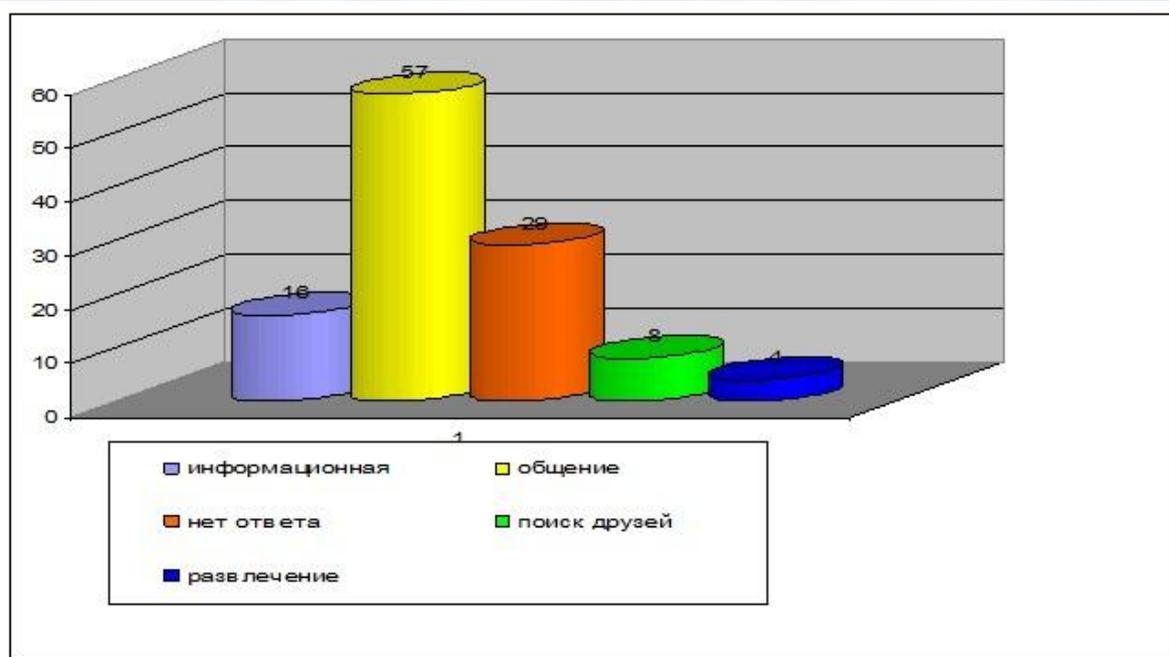


Трёхмерный анализ данных

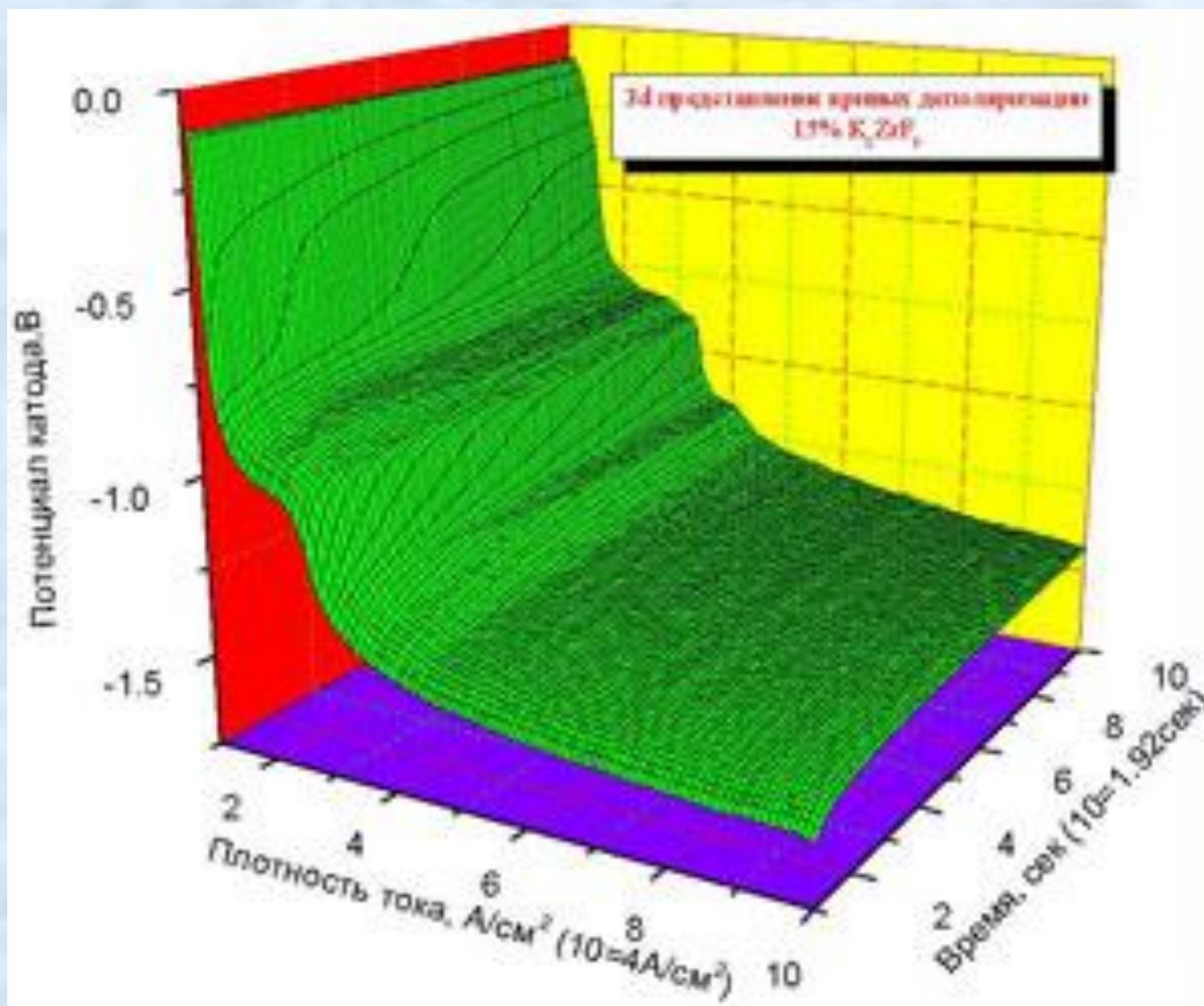




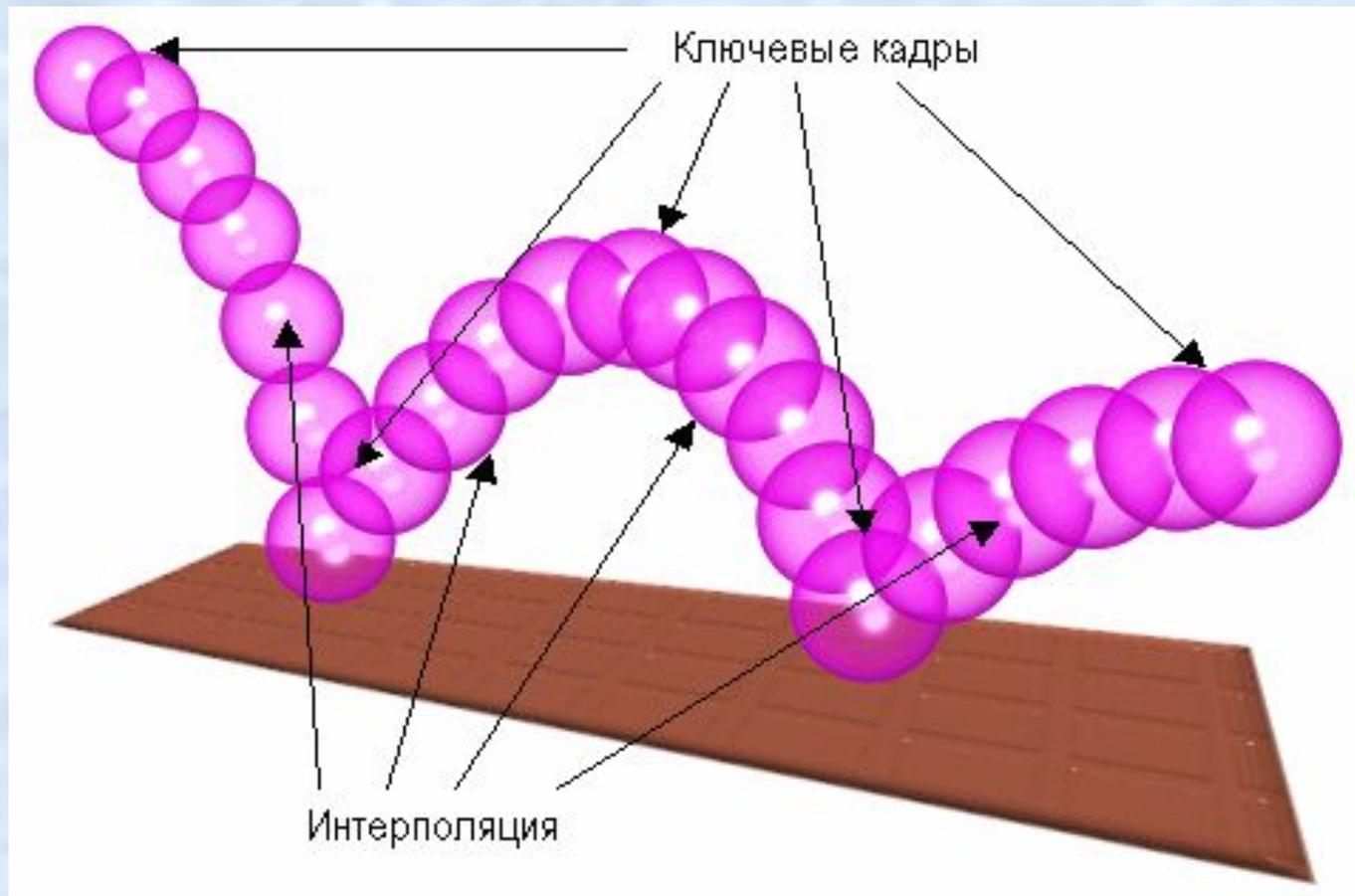
Столбчатая диаграмма

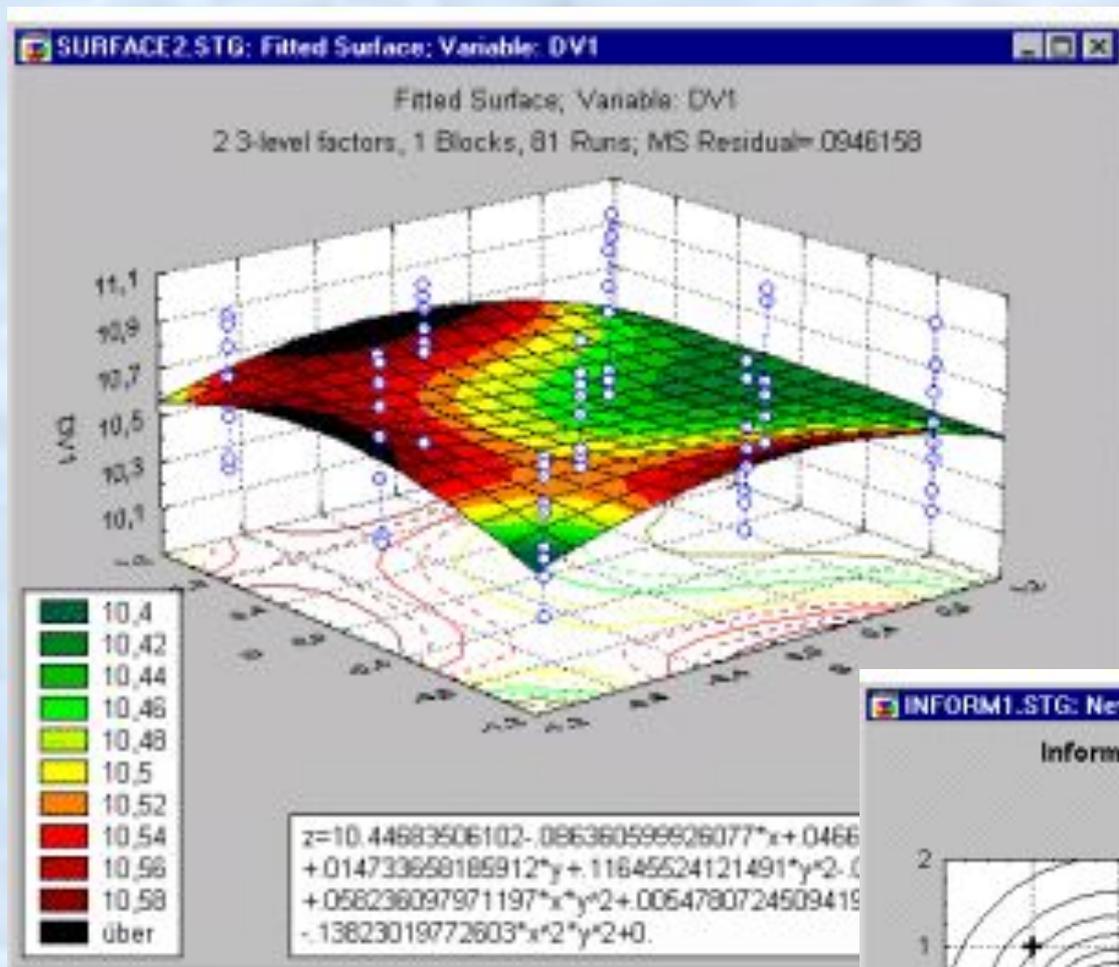


Ленточная диаграмма

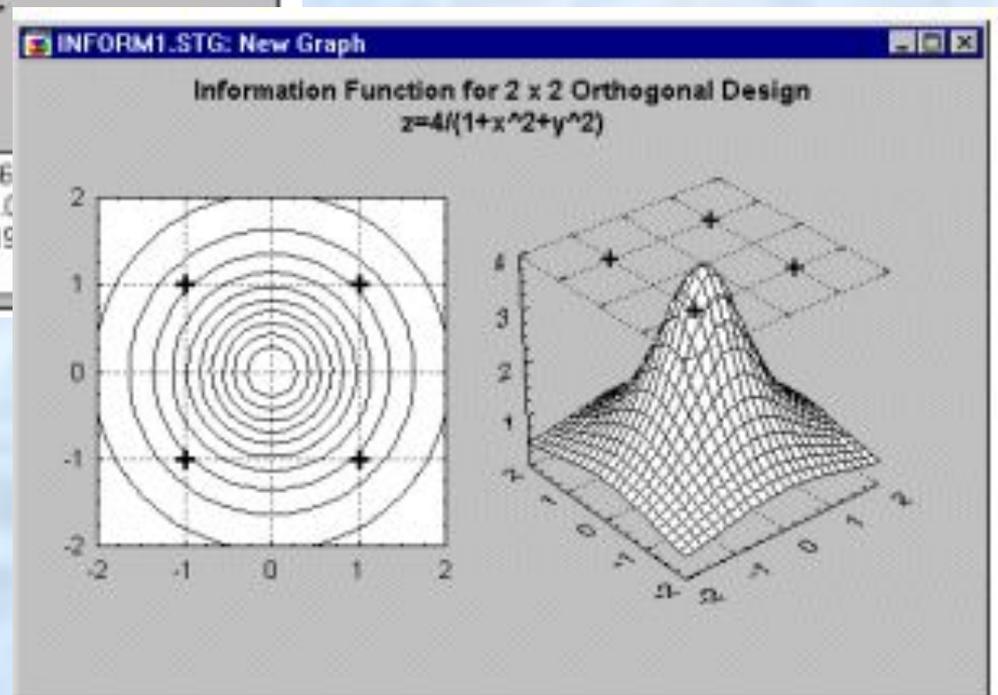


Линейный график





Дискретная карта
линий уровня



3D Surface Plot (Factor40.sta 41v*200c)
THICKNESS = Distance Weighted Least Squares

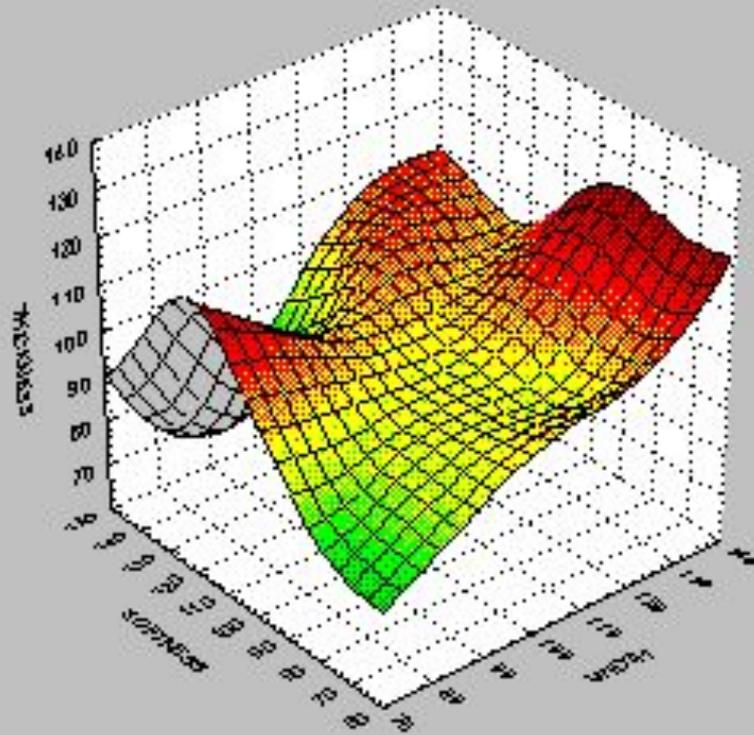
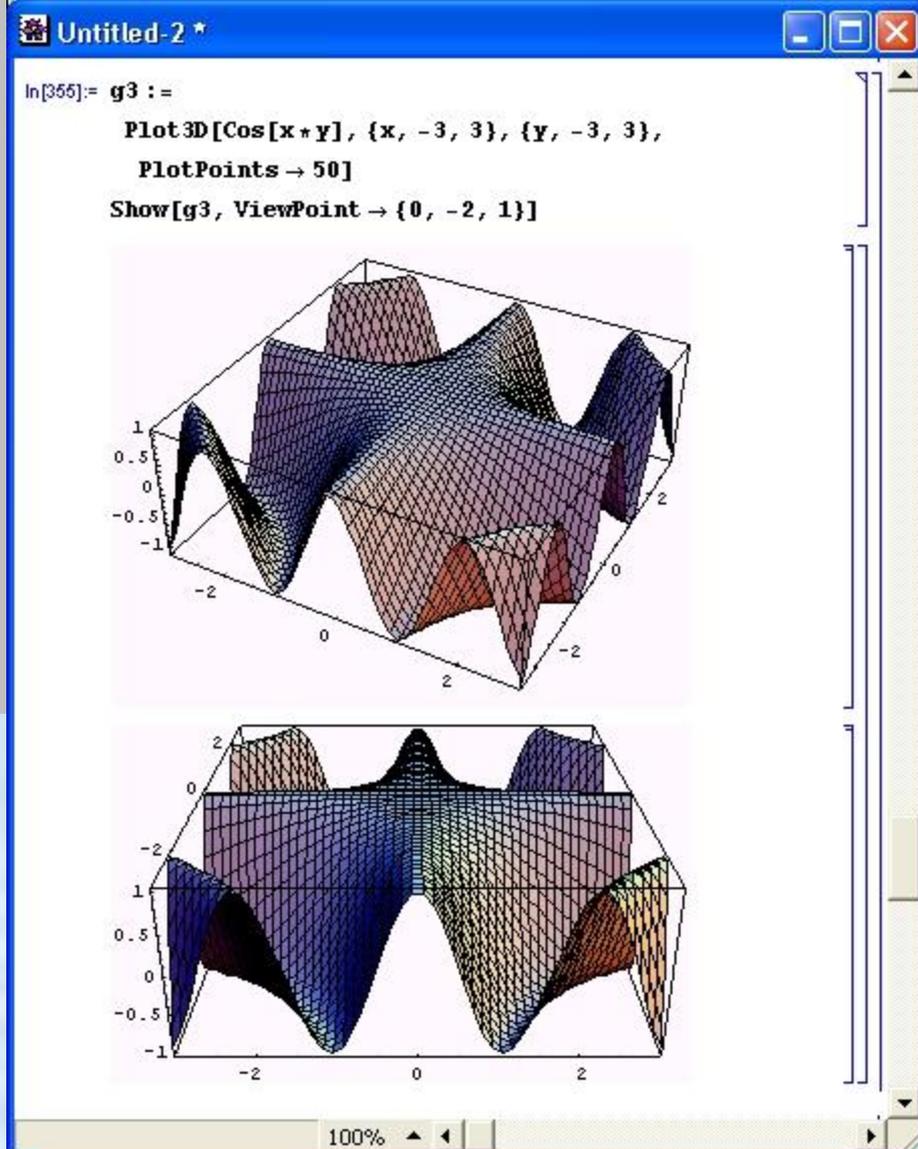
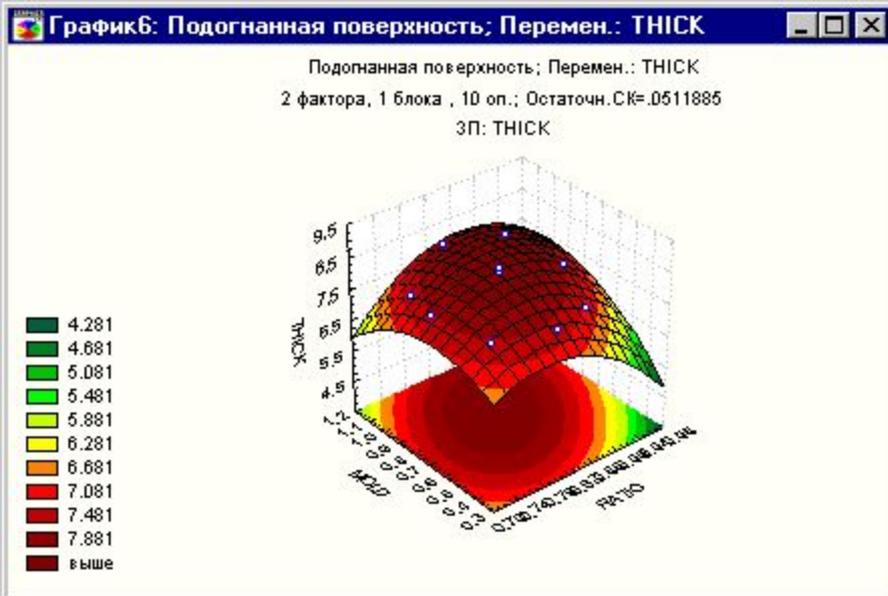
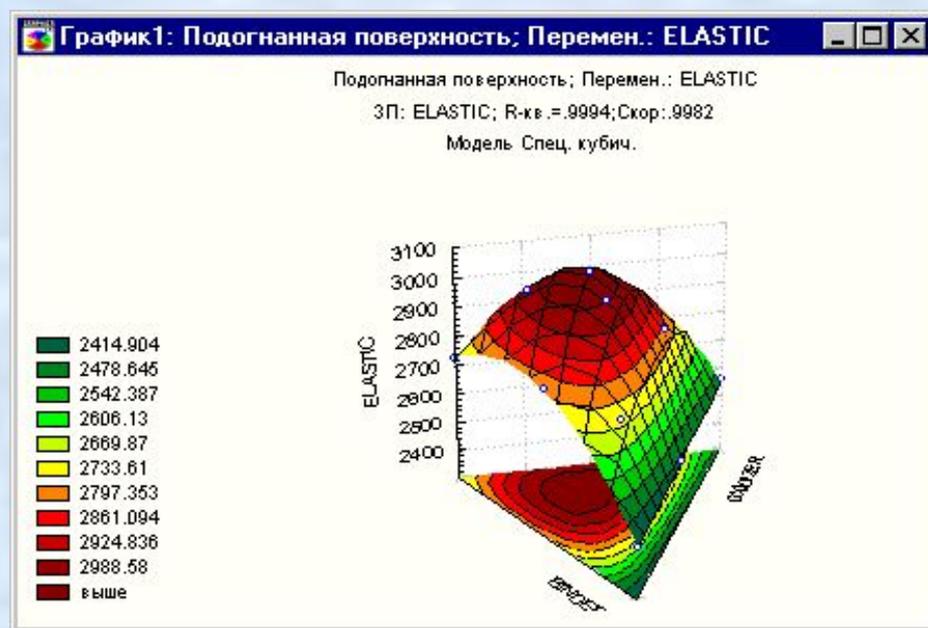
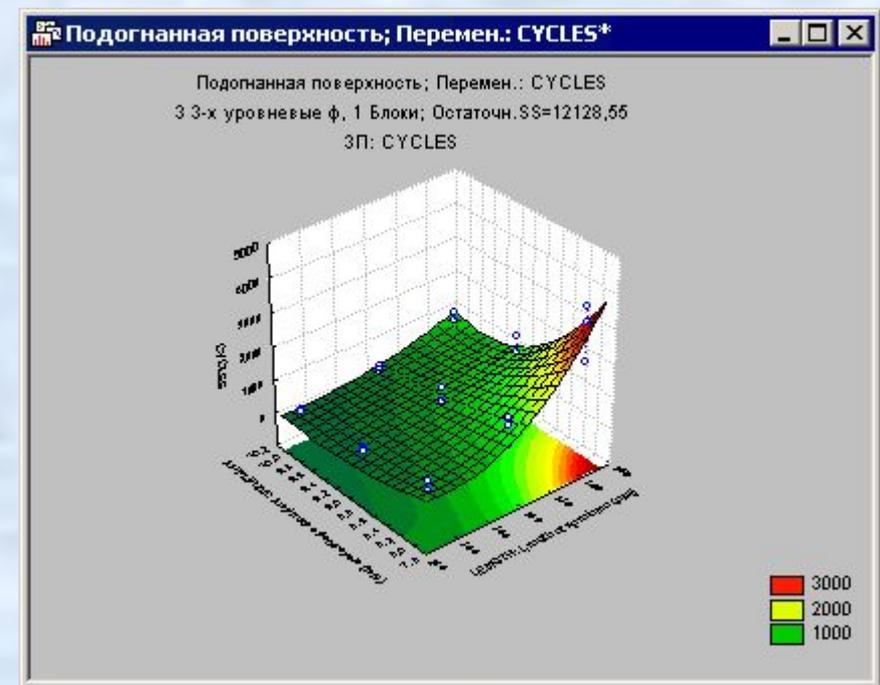


График поверхности



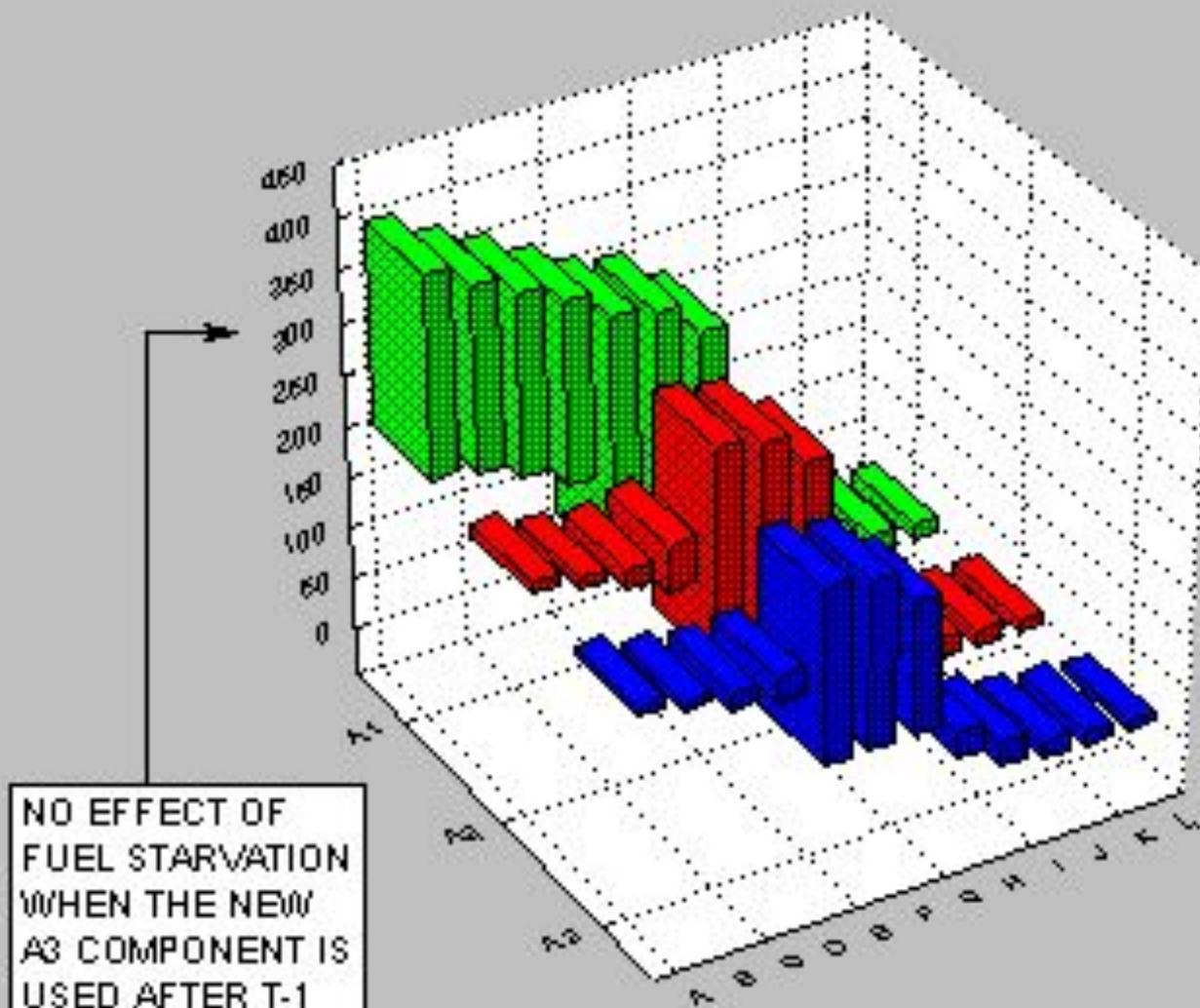


Карта линий уровня



3М диаграммы диапазонов

3D Range Graph (fuel.sta 7v*12c)

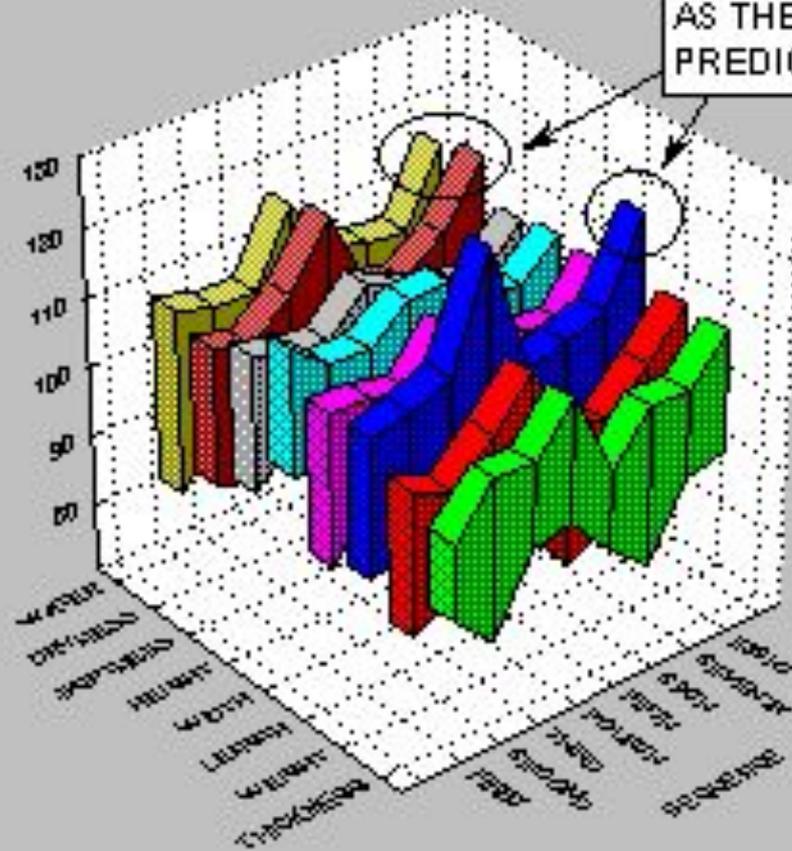


3D диаграммы размаха

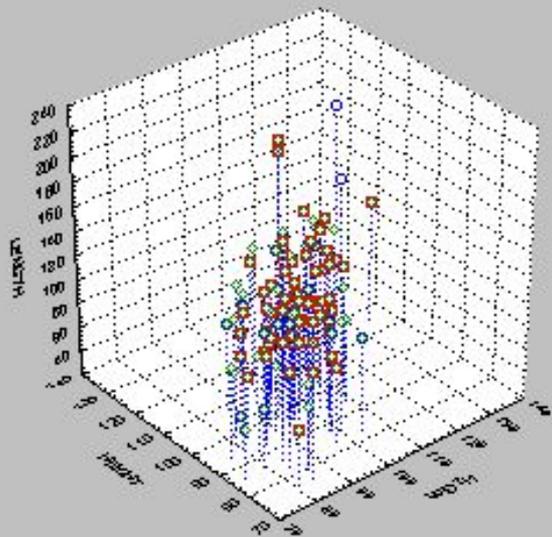
3D Box Plot (Factor40.sta 41v*200c)

Median; Range: 25%, 75%

AS THE RML (rev. 2) MODEL
PREDICTED (already twice)



3D Scatterplot (Factor40.sta 41v*200c)

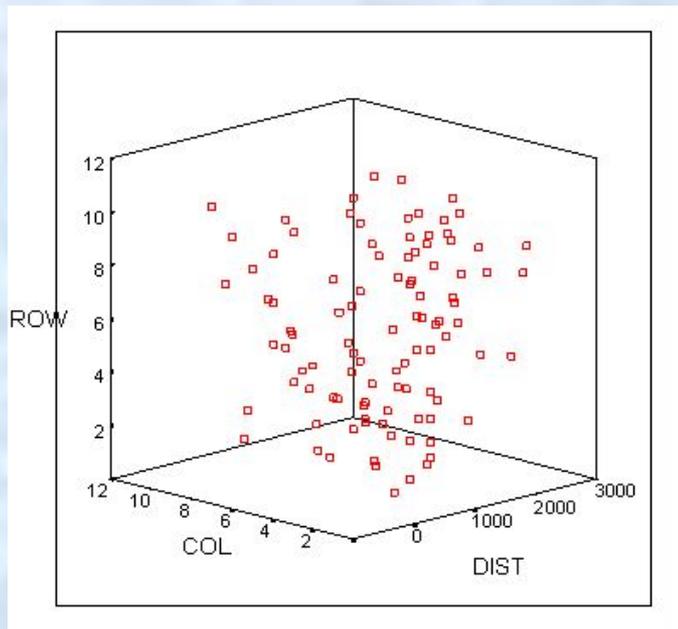
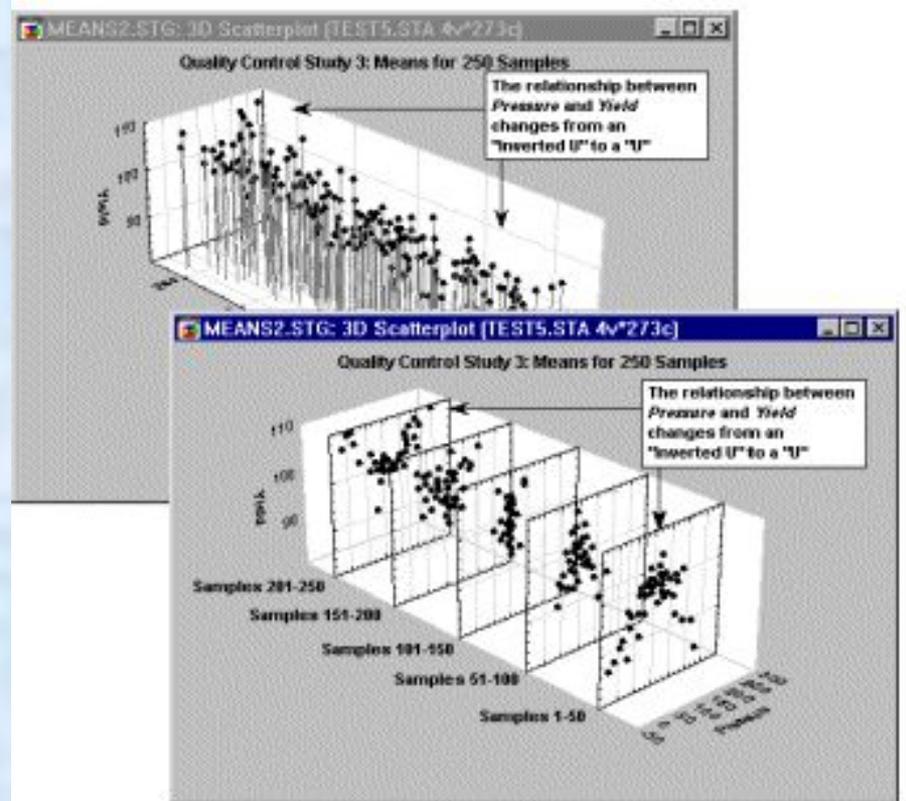


WIDTH:HEIGHT:LENGTH:
Multiple R(z/xy) = 0.4979,
p = 0.0000

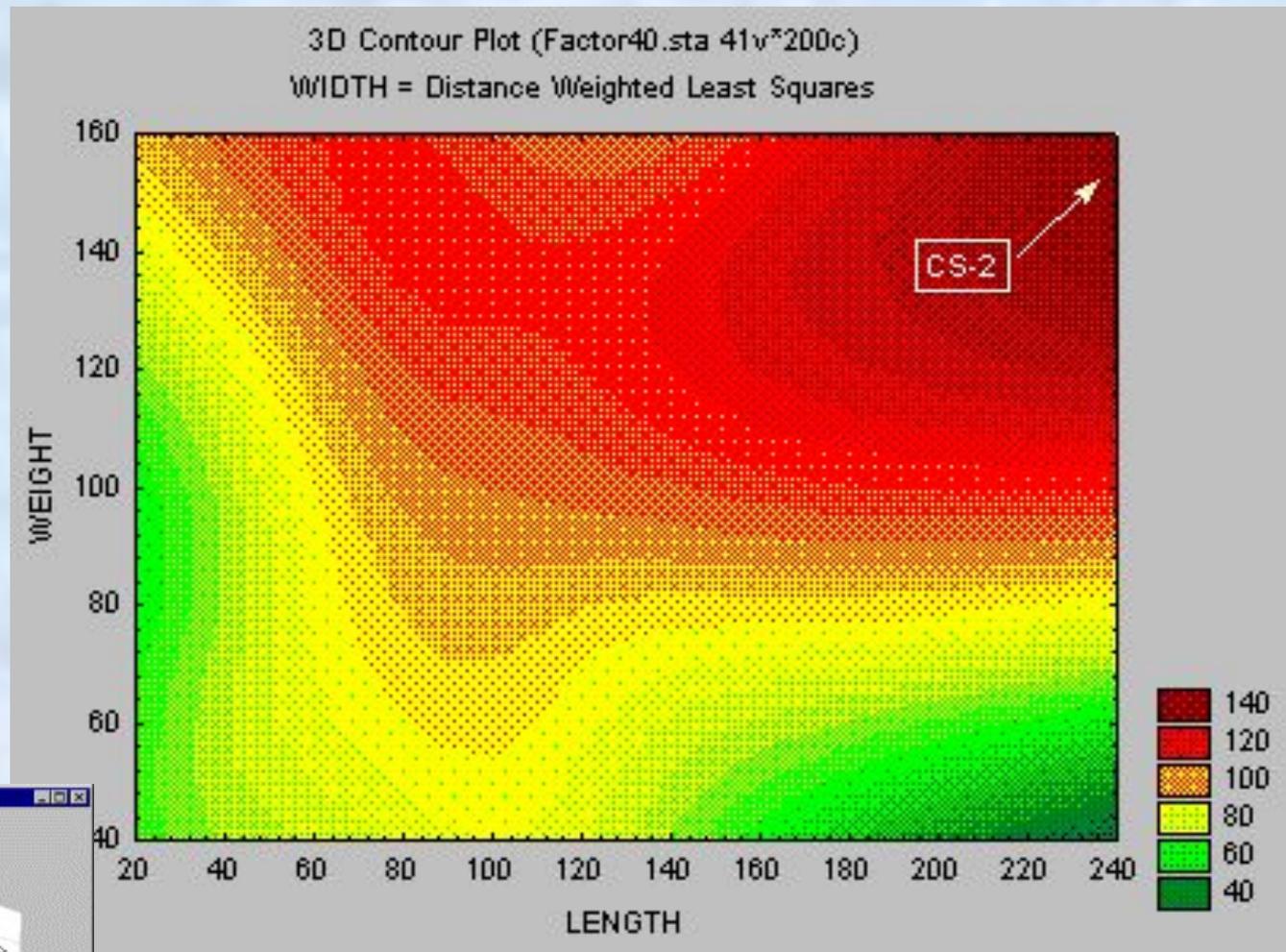
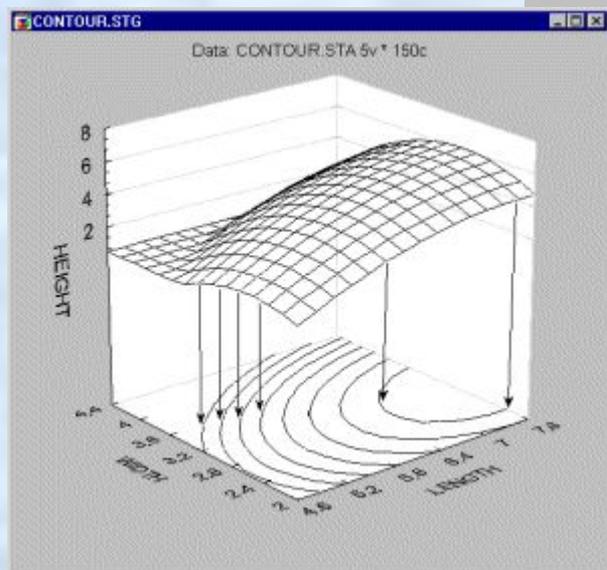
Multiple Subset Conditions:

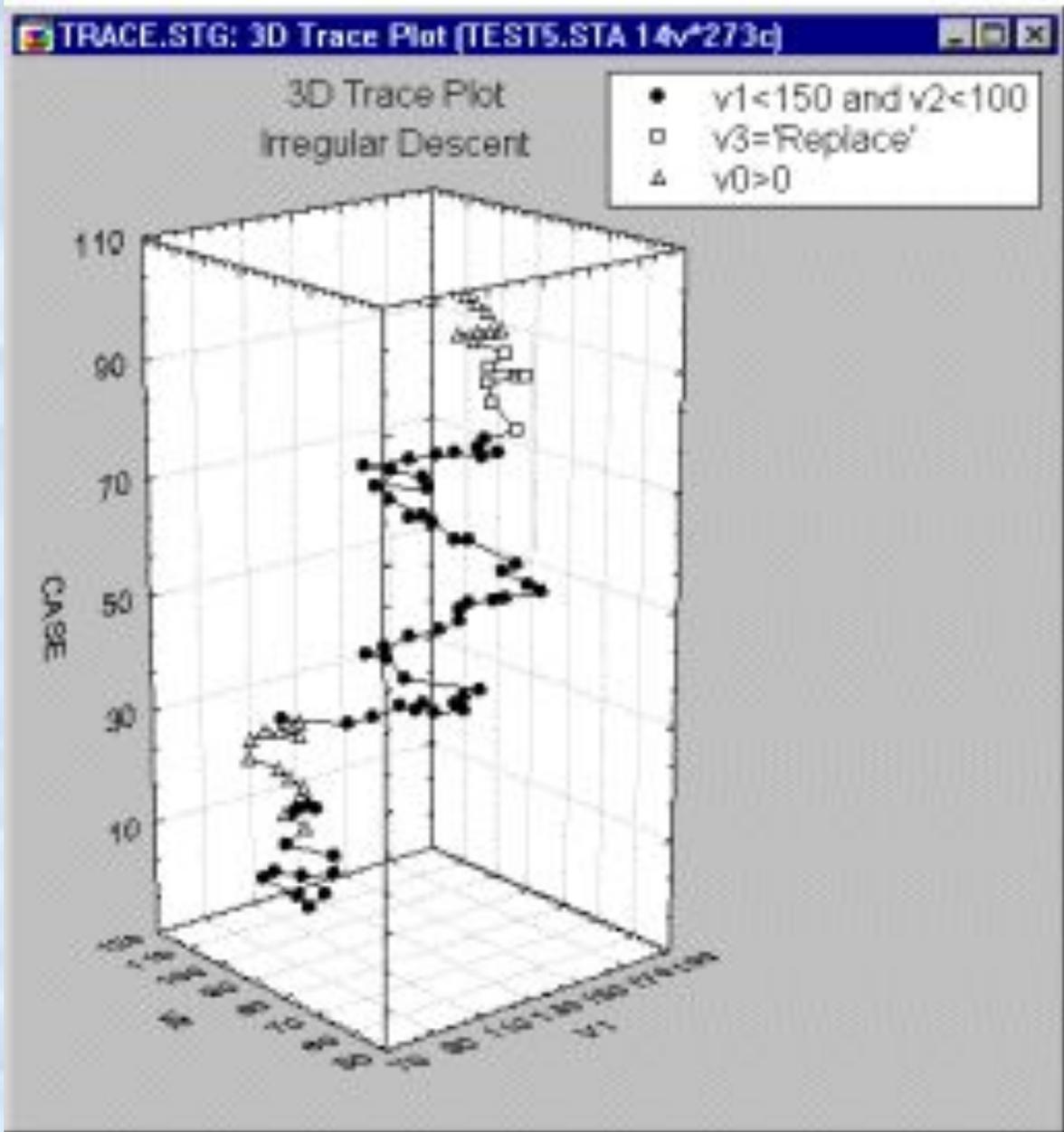
- Include $v0 < 21$
- Include $v0 > 20$ and $v0 < 81$
- ◇ Include $v0 > 80$

Трехмерные диаграммы рассеяния



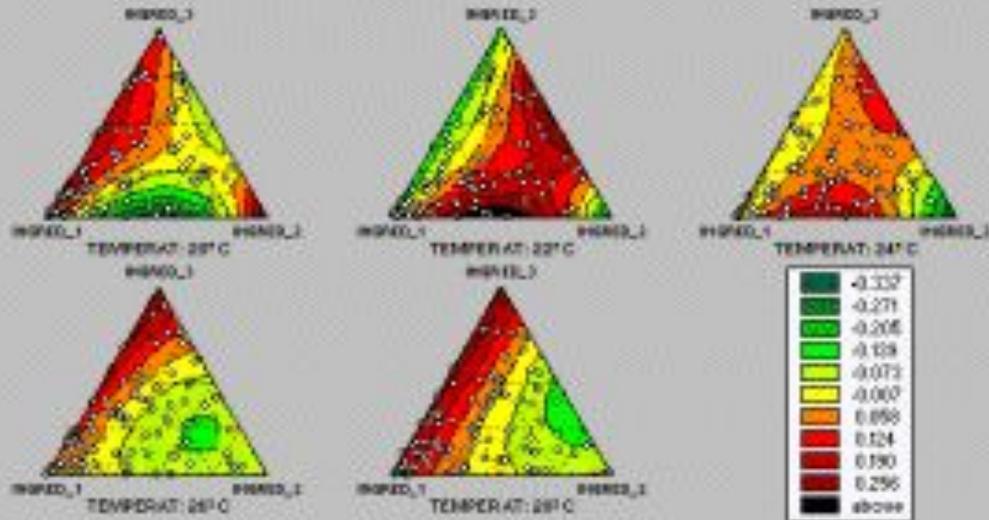
Карты линий уровня





Трассировочные
графики

Ternary Graph (DENSITY.STA 5v*500c)

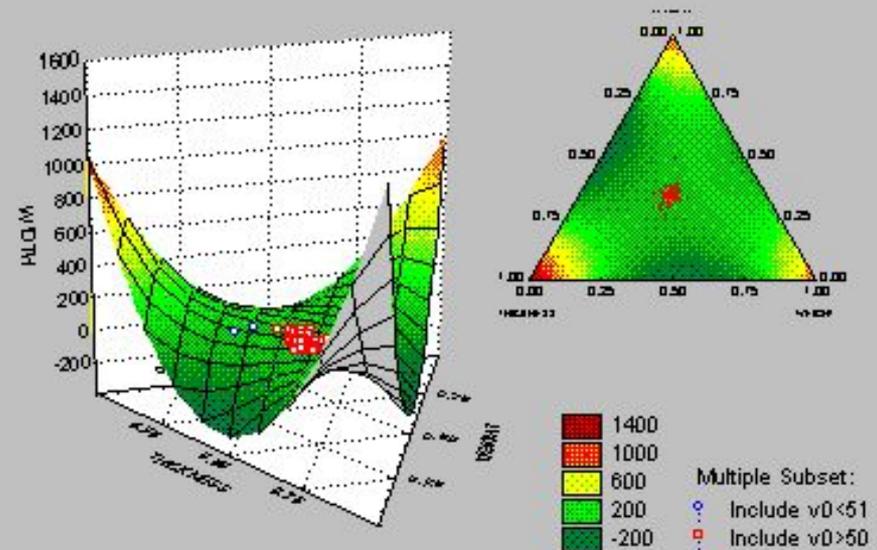


TEMPERAT: 20°C $w=0.215^*x-0.277^*y-0.93^*z+1.452^*x^2+0.394^*x^2+1.284^*y^2+5.674^*y^2$
 TEMPERAT: 22°C $w=-0.107^*x+0.247^*y+0.165^*z+1.107^*x^2+1.184^*x^2+2.127^*y^2+5.85^*y^2$
 TEMPERAT: 24°C $w=-0.102^*x+0.467^*y+0.822^*z+0.231^*x^2+1.252^*x^2+1.225^*y^2+3.255^*y^2$
 TEMPERAT: 26°C $w=0.028^*x+0.865^*y+0.276^*z+0.527^*x^2+0.229^*x^2+0.75^*y^2+1.725^*y^2$
 TEMPERAT: 28°C $w=0.167^*x+0.055^*y+0.274^*z+1.084^*x^2+0.610^*x^2+1.077^*y^2+0.125^*y^2$

Тернарные графики

Ternary Graph (Factor40.sta 41v*200c)

$$\begin{aligned}
 \text{WIDTH} = & 1487.5458^*x+1003.8389^*y+1048.1648^*z-6051.7235 \\
 & ^*x^2y-6243.5568^*x^2z-4058.8514^*y^2z+19929.4069^*x^2y^2z
 \end{aligned}$$



Multiple Subset:
 Include v0<51
 Include v0>50

Подгонка

Простейшая модель первого порядка:

$V = a + b_1 * X + b_2 * Y + b_3 * Z$ с ограничением $X + Y + Z = 1$, может быть построена с помощью умножения коэффициента a на $1 = X + Y + Z$:

$$V = a * X + a * Y + a * Z + b_1 * X + b_2 * Y + b_3 * Z$$

Это выражение можно упростить: $V = (a + b_1) * X + (a + b_2) * Y + (a + b_3) * Z$ или записать таким образом: $V = b_1' * X + b_2' * Y + b_3' * Z$

Ниже перечислены доступные в STATISTICA функции полиномиальной регрессии:

- *Линейное сглаживание* (полином первой степени):

$$V = b_1 * X + b_2 * Y + b_3 * Z$$

- *Квадратичное сглаживание* (полином второй степени):

$$V = b_1 * X + b_2 * Y + b_3 * Z + b_{12} * X * Y + b_{13} * X * Z + b_{23} * Y * Z$$

- *Полное кубическое сглаживание*:

$$V = b_1 * X + b_2 * Y + b_3 * Z + b_{12} * X * Y + b_{13} * X * Z + b_{23} * Y * Z + b_{12} * X * Y * (X - Y) + b_{13} * X * Z * (X - Z) + b_{23} * Y * Z * (Y - Z) + b_{123} * X * Y * Z$$

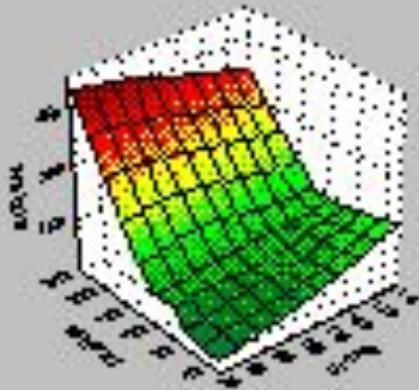
- *Специальное кубическое сглаживание*:

$$V = b_1 * X + b_2 * Y + b_3 * Z + b_{12} * X * Y + b_{13} * X * Z + b_{23} * Y * Z + b_{123} * X * Y * Z$$

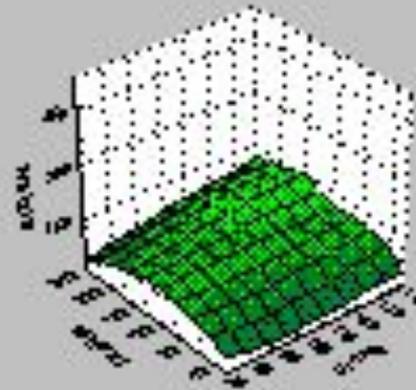
Трехмерные категоризованные графики

3D Categorized Graph (Factor40.sta 42v*200c)

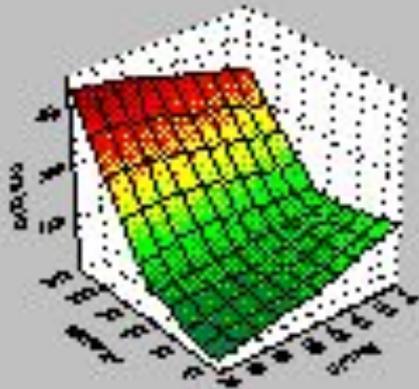
WEIGHT = Distance Weighted Least Squares



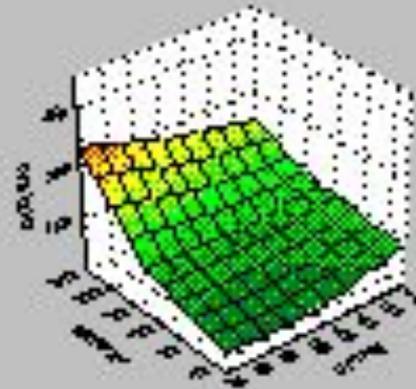
QUADRANT: Q-ONE



QUADRANT: Q-TWO



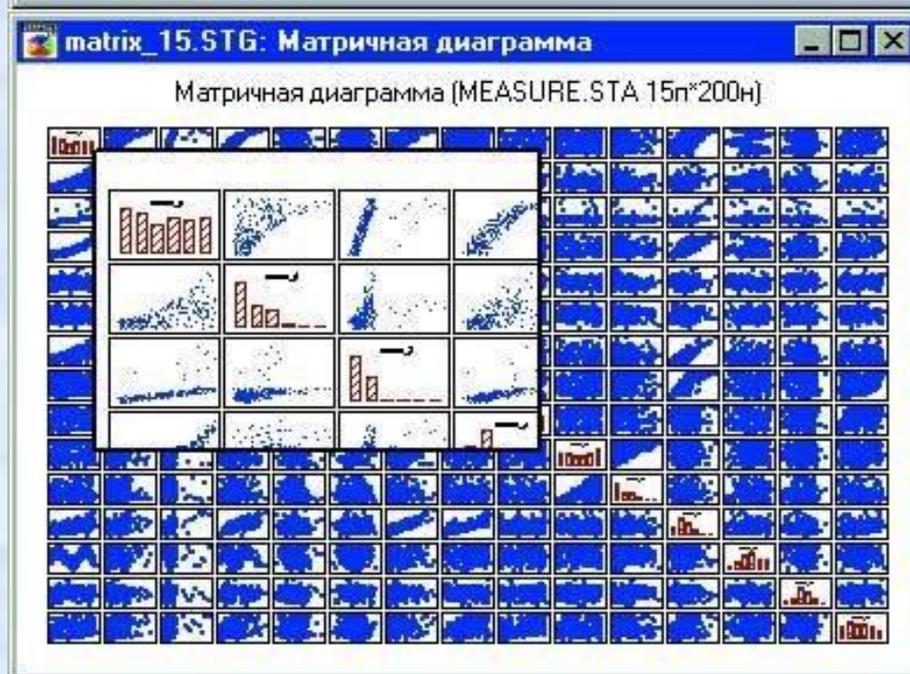
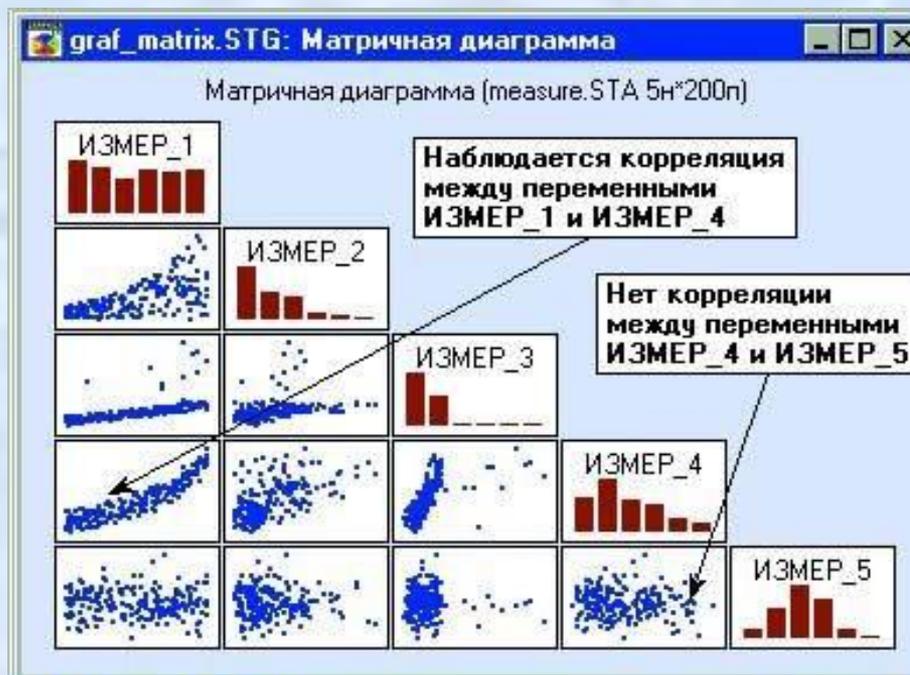
QUADRANT: Q-THREE



QUADRANT: Q-FOUR



Матричные графики



Подгонка функции к данным

Линейная подгонка

$$Y = a + bX$$

Логарифмическая подгонка

$$y = q * [\log_n x] + b$$

Экспоненциальная подгонка

$$y = b * \exp(q * x)$$

Полиномиальная подгонка

$$y = b_0 + b_1 * x + b_2 * x^2 + b_3 * x^3 + \dots + b_n * x^n, \text{ где } n \text{ — степень полинома } (1 < n < 6).$$