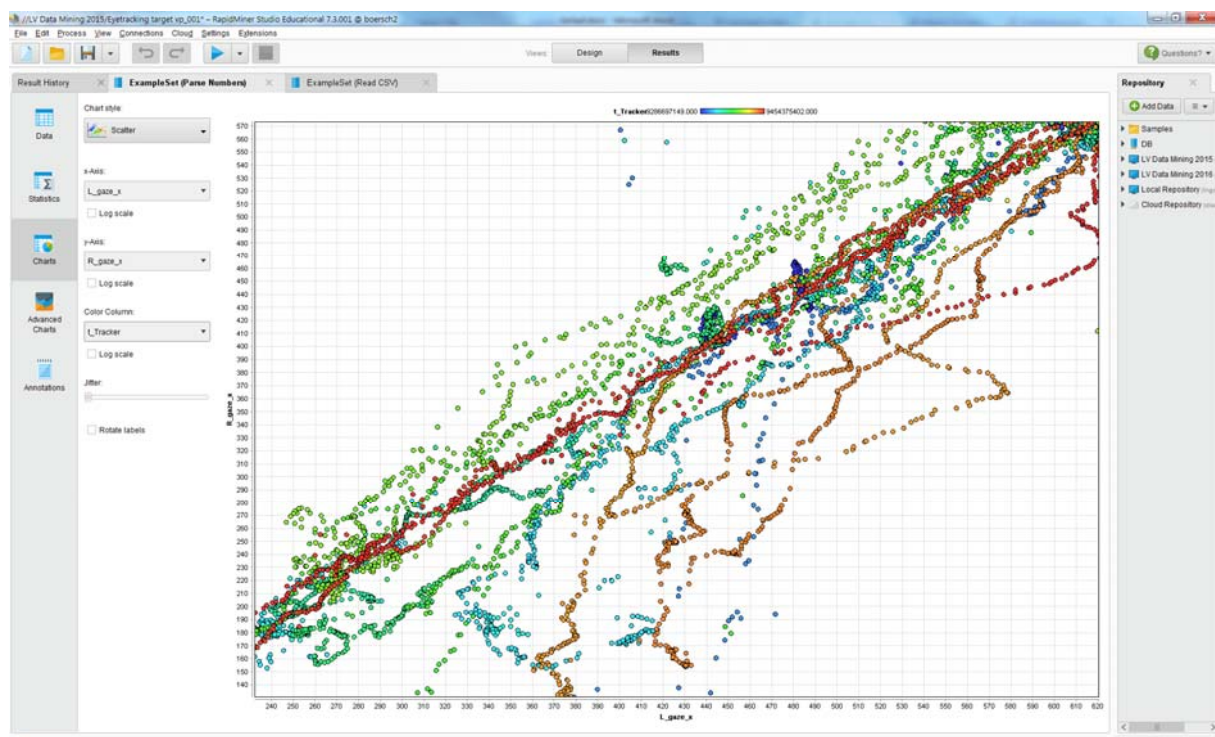
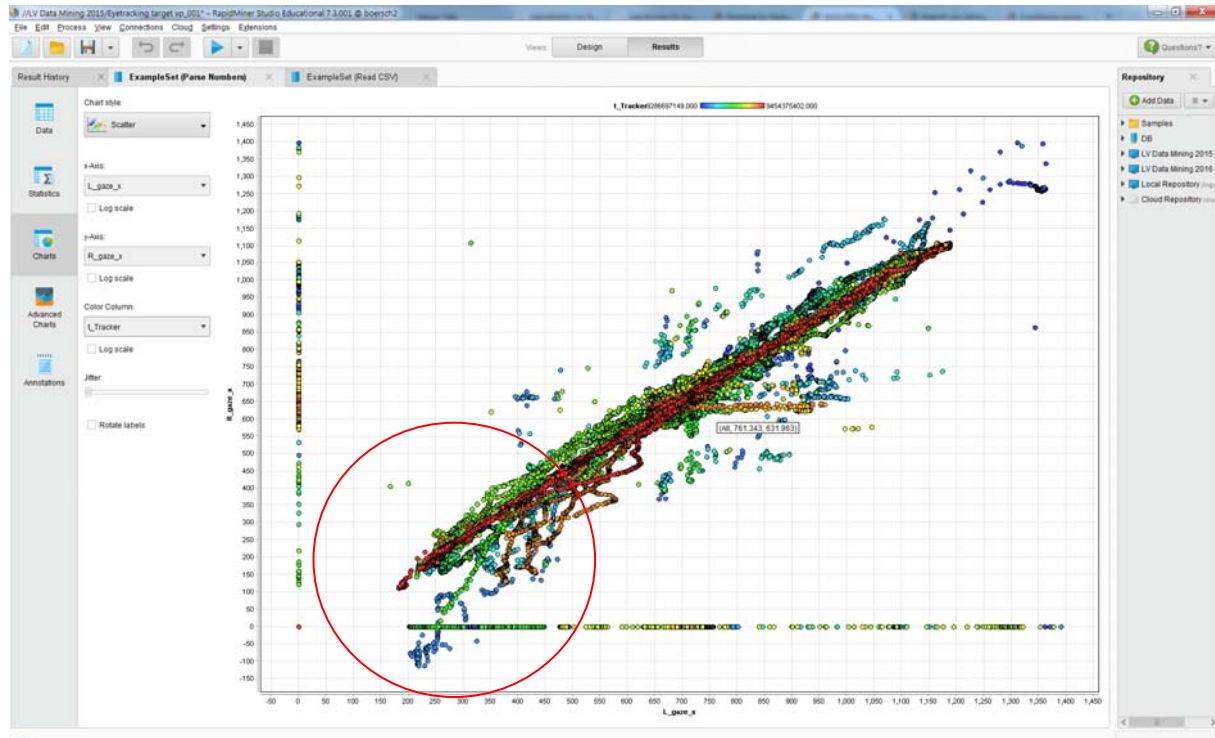
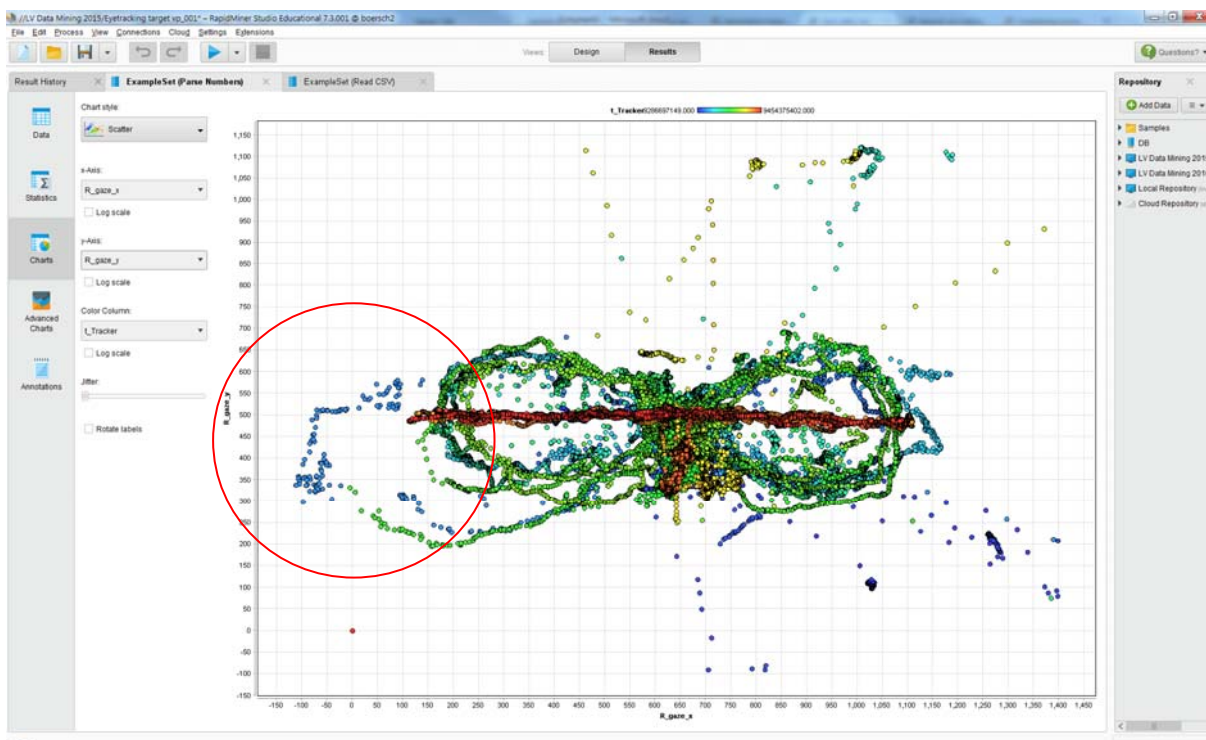
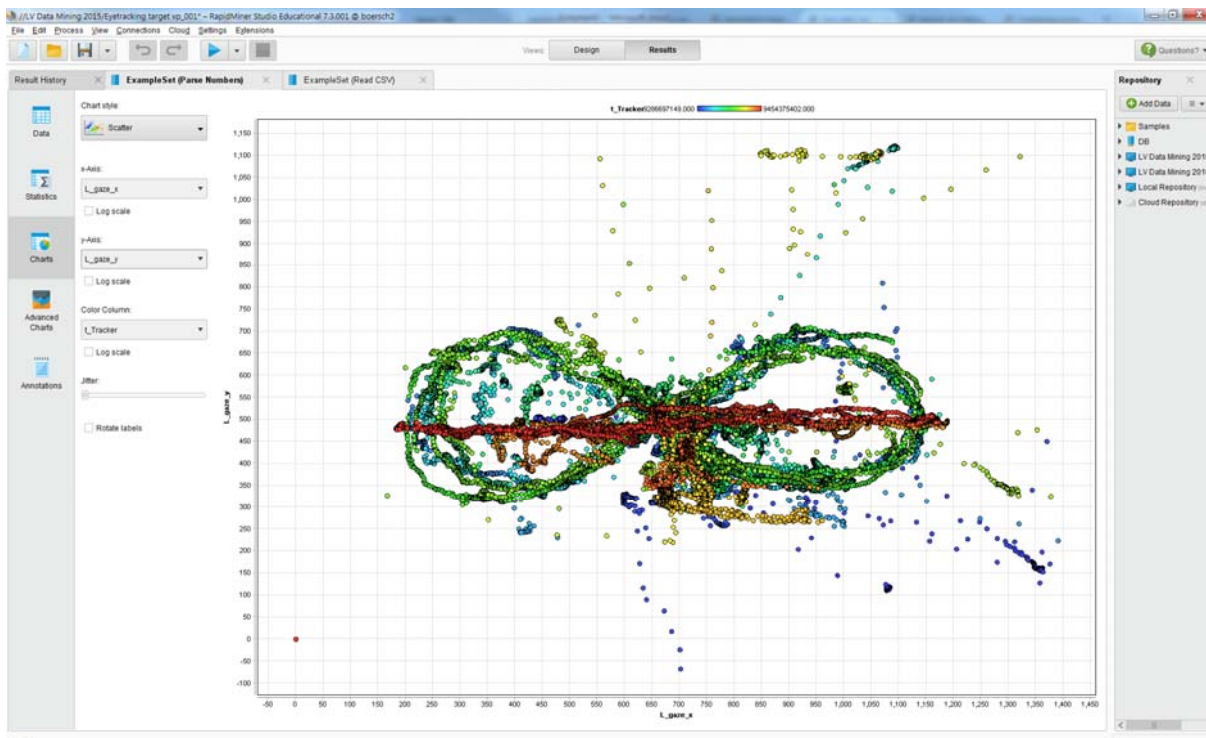


Explorative Analyse (RapidMiner): Zwei mehrkanalige Zeitreihen gleicher Zeit mit verschiedenen Zeitpunkten

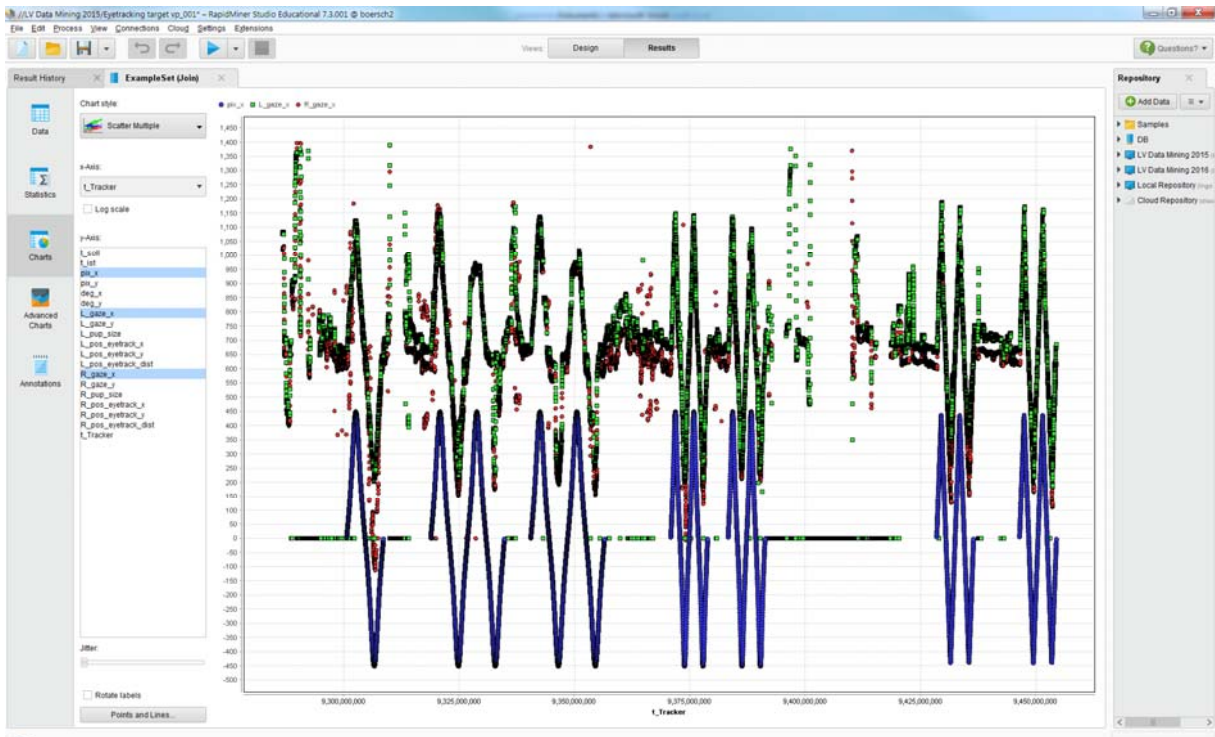
Vergleich Soll, IST (also Target und Gaze)



Nur Gaze: Deutliche Unterschiede zwischen Links und Rechts:



Target+Gaze: Abweichung zwischen den Augen ist in den Pausen größer als bei der Übung:

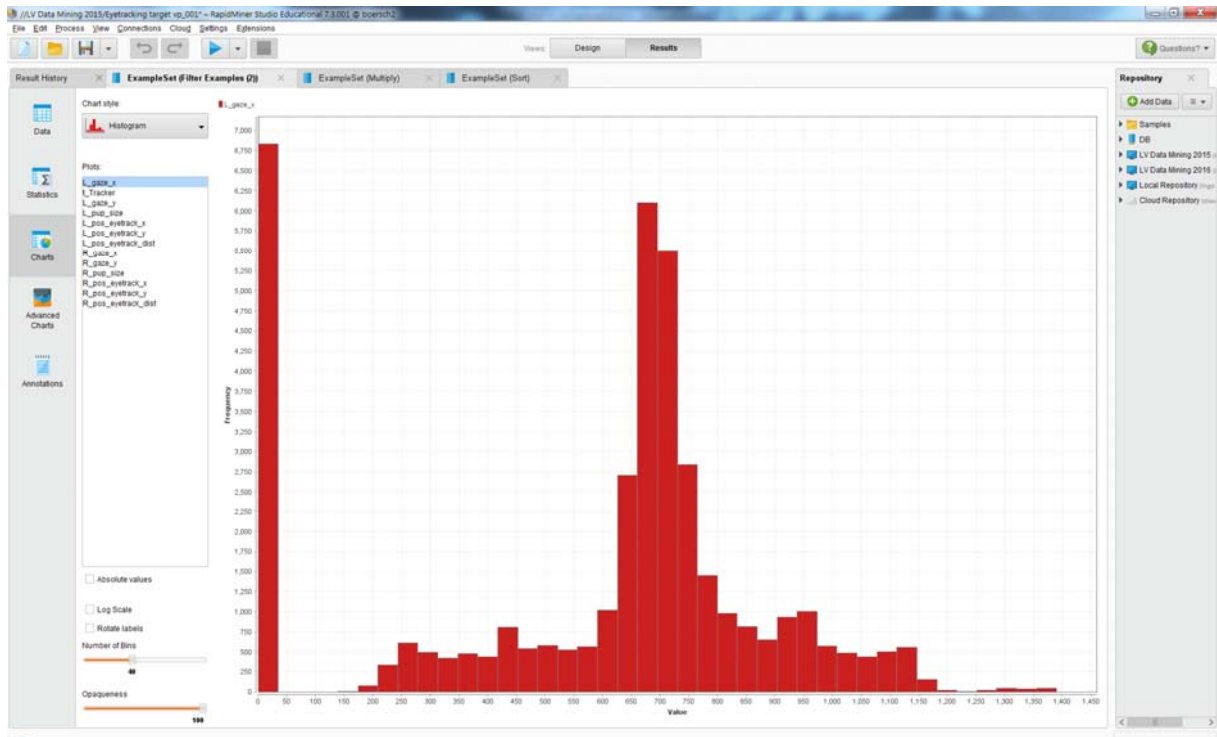


Outer Join zeigt: Verschiedene Samplingfrequenzen, keine/kaum gemeinsame Zeitstempel

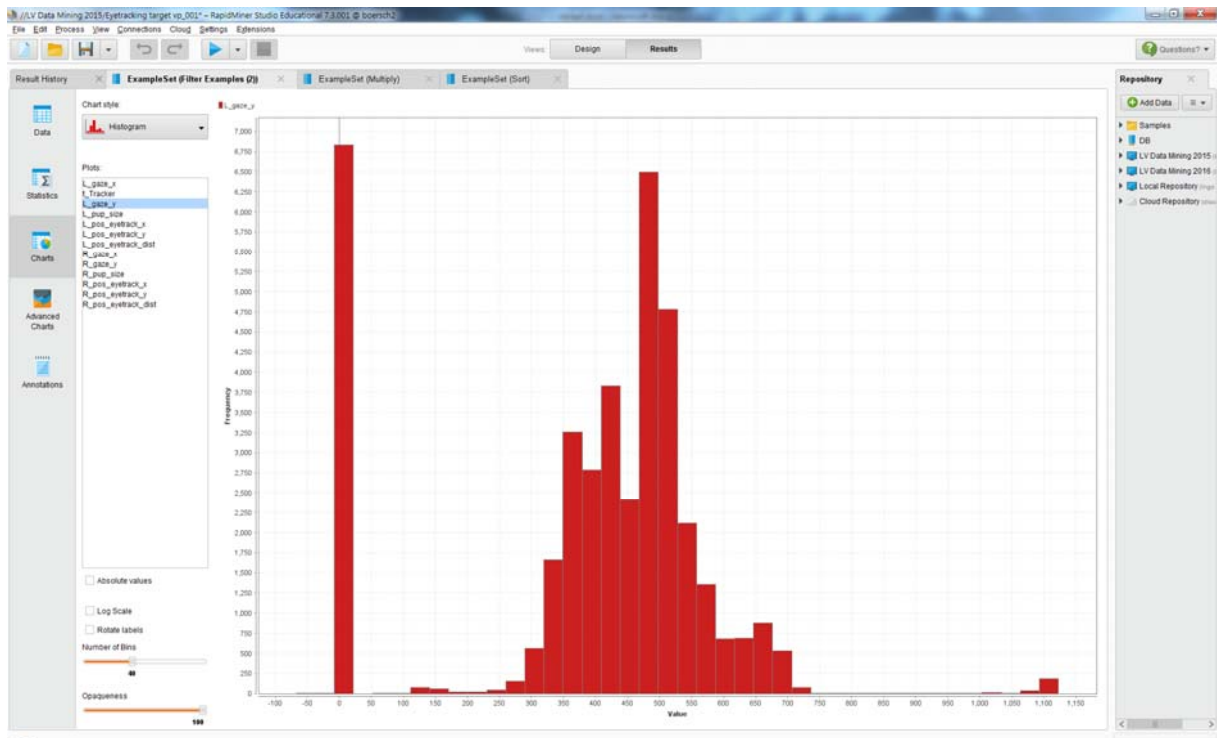
The figure shows a table view of data in the RapidMiner Studio interface. The table has 18 columns: 'Row No.', 't_Tracker', 't_sof', 't_Ht', 'pH_x', 'pH_y', 'deg_x', 'deg_y', 'L_gaze_x', 'L_gaze_y', 'L_pos_size', 'L_pos_evrct...', 'L_pos_evrct...', 'R_gaze_x', and 'R_gaze_y'. The data is sorted by 't_Tracker'. The table shows that the 'L' series (Left eye) and 'R' series (Right eye) have different sampling frequencies, with many rows containing missing values (indicated by empty cells or '?' in the original image) for one or both eyes at the same time step. This illustrates the challenge of aligning data from different sources with varying sampling rates.

| Row No. | t_Tracker | t_sof | t_Ht | pH_x | pH_y | deg_x | deg_y | L_gaze_x | L_gaze_y | L_pos_size | L_pos_evrct... | L_pos_evrct... | R_gaze_x | R_gaze_y |
|---------|------------|-------|-------|----------|----------|--------|--------|----------|----------|------------|----------------|----------------|----------|----------|
| 4972 | 9305811687 | ? | ? | ? | ? | ? | ? | 337.688 | 662.130 | 3.426 | -5.691 | 45.292 | 621.306 | 0 |
| 4973 | 9305884201 | 5.381 | 5.381 | -326.634 | -152.566 | -8.946 | -4.223 | ? | ? | ? | ? | ? | ? | ? |
| 4974 | 9305885688 | ? | ? | ? | ? | ? | ? | 335.960 | 663.153 | 3.433 | -5.853 | 45.253 | 620.384 | 0 |
| 4975 | 9305889690 | ? | ? | ? | ? | ? | ? | 336.826 | 662.719 | 3.433 | -5.054 | 45.228 | 620.357 | 0 |
| 4976 | 9305893891 | ? | ? | ? | ? | ? | ? | 336.824 | 660.609 | 3.434 | -6.206 | 45.239 | 620.815 | 0 |
| 4977 | 9305897693 | ? | ? | ? | ? | ? | ? | 334.130 | 660.570 | 3.434 | -6.400 | 45.239 | 621.360 | 0 |
| 4978 | 9305901694 | ? | ? | ? | ? | ? | ? | 332.654 | 661.840 | 3.434 | -5.580 | 45.126 | 620.534 | 0 |
| 4979 | 9305902207 | 5.398 | 5.398 | -331.793 | -151.115 | -9.087 | -4.183 | ? | ? | ? | ? | ? | ? | ? |
| 4980 | 9305905695 | ? | ? | ? | ? | ? | ? | 329.570 | 660.915 | 3.433 | -6.743 | 45.043 | 620.218 | 0 |
| 4981 | 9305909696 | ? | ? | ? | ? | ? | ? | 329.735 | 658.247 | 3.436 | -5.921 | 44.902 | 619.754 | 0 |
| 4982 | 9305913697 | ? | ? | ? | ? | ? | ? | 328.268 | 659.655 | 3.434 | -7.107 | 44.756 | 619.060 | 0 |
| 4983 | 9305917225 | 5.415 | 5.415 | -336.908 | -149.514 | -9.227 | -4.138 | ? | ? | ? | ? | ? | ? | ? |
| 4984 | 9305917698 | ? | ? | ? | ? | ? | ? | 328.248 | 659.229 | 3.437 | -7.304 | 44.571 | 618.409 | 0 |
| 4985 | 9305921699 | ? | ? | ? | ? | ? | ? | 325.322 | 660.544 | 3.439 | -7.490 | 44.454 | 618.318 | 0 |
| 4986 | 9305925699 | ? | ? | ? | ? | ? | ? | 323.786 | 659.365 | 3.435 | -7.674 | 44.251 | 617.783 | 0 |
| 4987 | 9305929700 | ? | ? | ? | ? | ? | ? | 321.978 | 659.971 | 3.436 | -7.878 | 44.092 | 617.582 | 0 |
| 4988 | 9305933701 | ? | ? | ? | ? | ? | ? | 321.937 | 659.351 | 3.431 | -8.089 | 43.895 | 616.165 | 0 |
| 4989 | 9305935221 | 5.431 | 5.431 | -342.013 | -147.751 | -9.367 | -4.089 | ? | ? | ? | ? | ? | ? | ? |
| 4990 | 9305937702 | ? | ? | ? | ? | ? | ? | 319.902 | 657.234 | 3.429 | -8.290 | 43.538 | 615.046 | 0 |
| 4991 | 9305941703 | ? | ? | ? | ? | ? | ? | 318.460 | 659.917 | 3.424 | -8.508 | 43.342 | 614.618 | 0 |
| 4992 | 9305945704 | ? | ? | ? | ? | ? | ? | 317.234 | 662.279 | 3.424 | -8.730 | 43.234 | 615.573 | 0 |
| 4993 | 9305949705 | ? | ? | ? | ? | ? | ? | 316.124 | 658.445 | 3.421 | -8.959 | 43.034 | 615.559 | 0 |
| 4994 | 9305953242 | 5.448 | 5.448 | -347.079 | -145.830 | -9.506 | -4.036 | ? | ? | ? | ? | ? | ? | ? |
| 4995 | 9305953706 | ? | ? | ? | ? | ? | ? | 315.848 | 659.513 | 3.423 | -9.201 | 42.778 | 614.819 | 0 |
| 4996 | 9305957707 | ? | ? | ? | ? | ? | ? | 311.116 | 661.253 | 3.424 | -9.432 | 42.605 | 614.682 | 0 |
| 4997 | 9305961708 | ? | ? | ? | ? | ? | ? | 309.720 | 663.055 | 3.425 | -9.688 | 42.425 | 614.801 | 0 |
| 4998 | 9305965709 | ? | ? | ? | ? | ? | ? | 310.915 | 656.334 | 3.423 | -9.961 | 42.210 | 614.338 | 0 |
| 4999 | 9305968252 | 5.465 | 5.465 | -352.116 | -143.744 | -9.643 | -3.978 | ? | ? | ? | ? | ? | ? | ? |
| 5000 | 9305968710 | ? | ? | ? | ? | ? | ? | 308.010 | 659.937 | 3.423 | -10.216 | 42.012 | 613.892 | 0 |
| 5001 | 9305973711 | ? | ? | ? | ? | ? | ? | 307.365 | 660.419 | 3.426 | -10.493 | 41.875 | 614.405 | 0 |
| 5002 | 9306077713 | ? | ? | ? | ? | ? | ? | 306.436 | 658.463 | 3.423 | -11.723 | 41.673 | 613.360 | 0 |

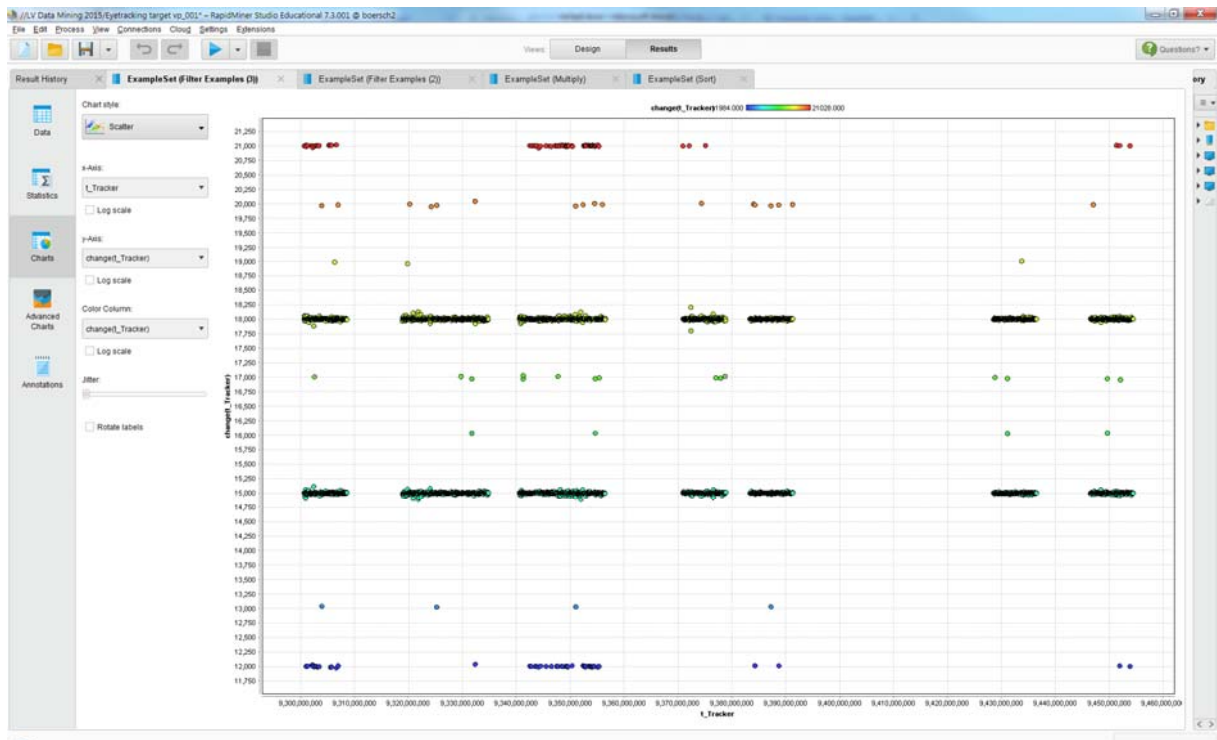
Gaze: Fehlende Werte als 0 in pix_x



Ebenso in pix_y:

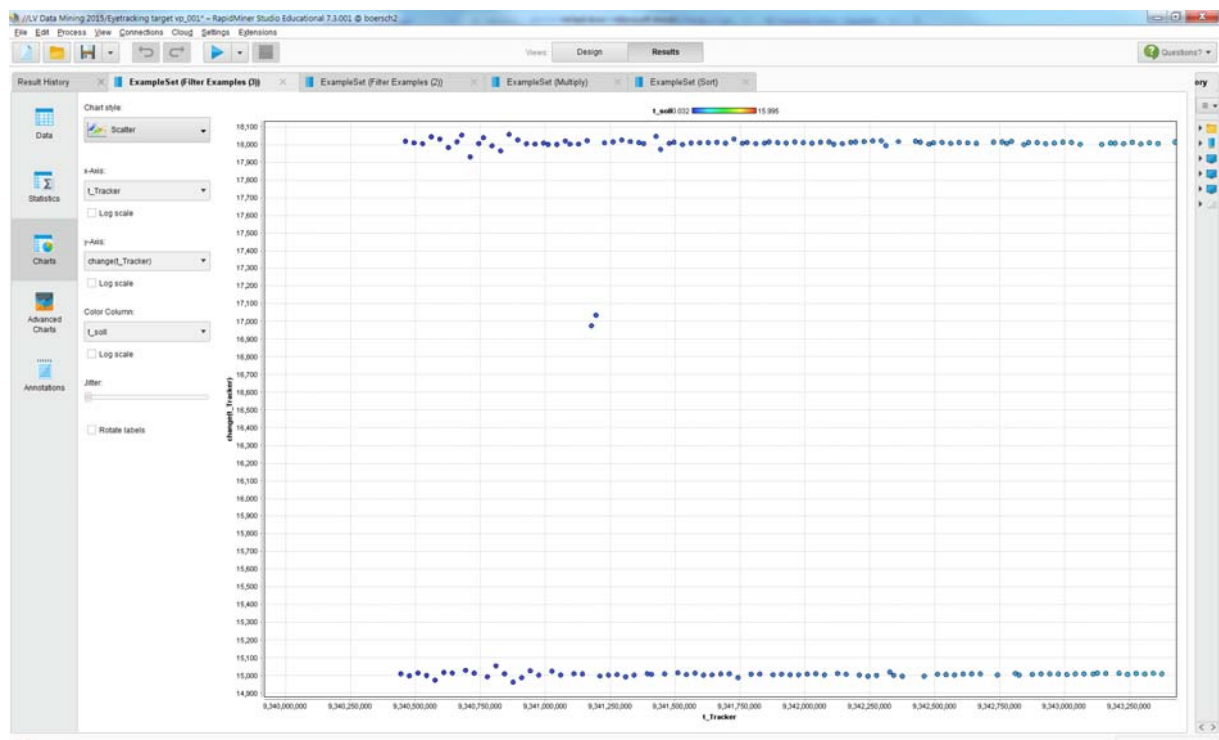


Target: T_Tracker, differenziert, die 5-6 Extrema (=lange Pausen) entfernt): Werte um 15.000, 18.000, 21.000 aber nicht getrennt sondern, durcheinander abwechselnd:

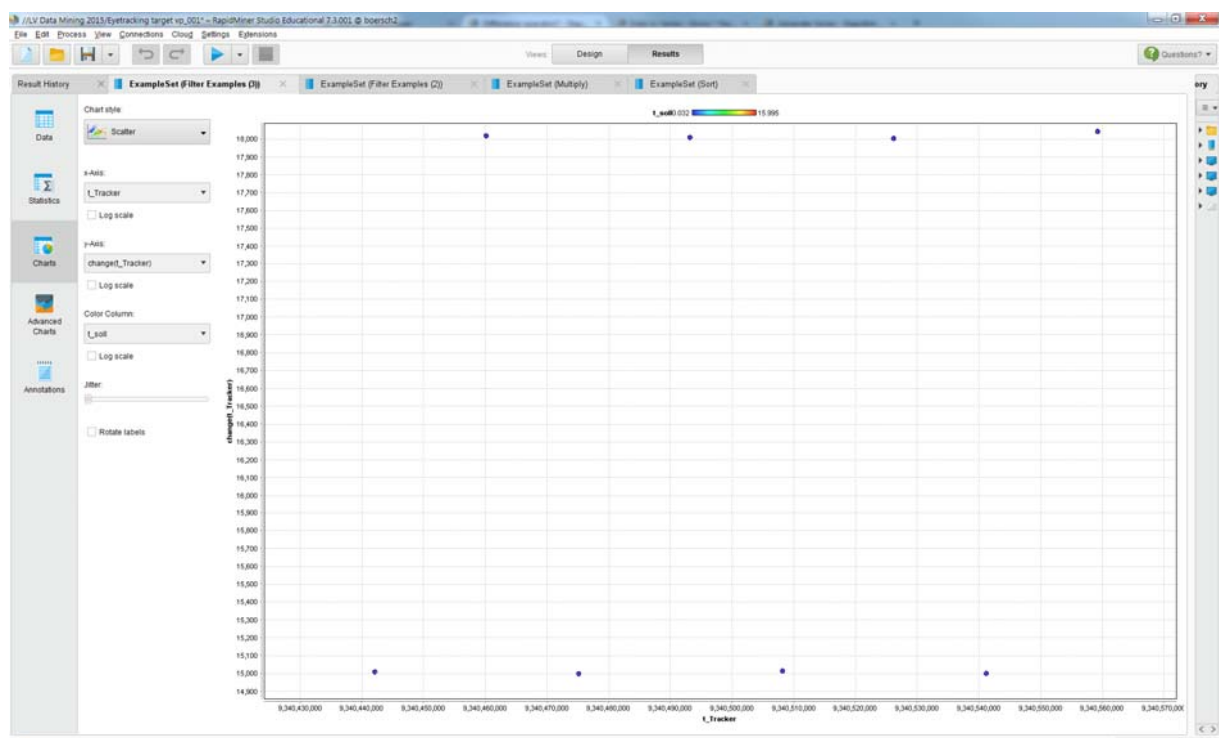


Mit Jitter:

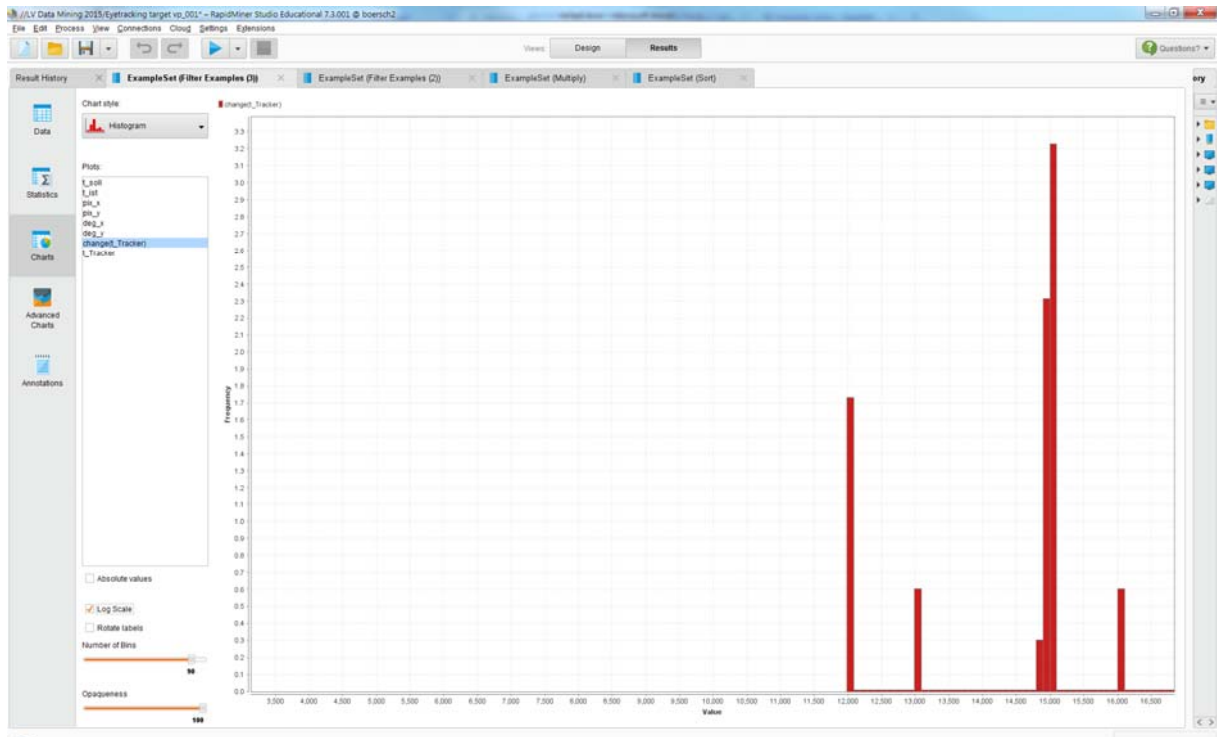




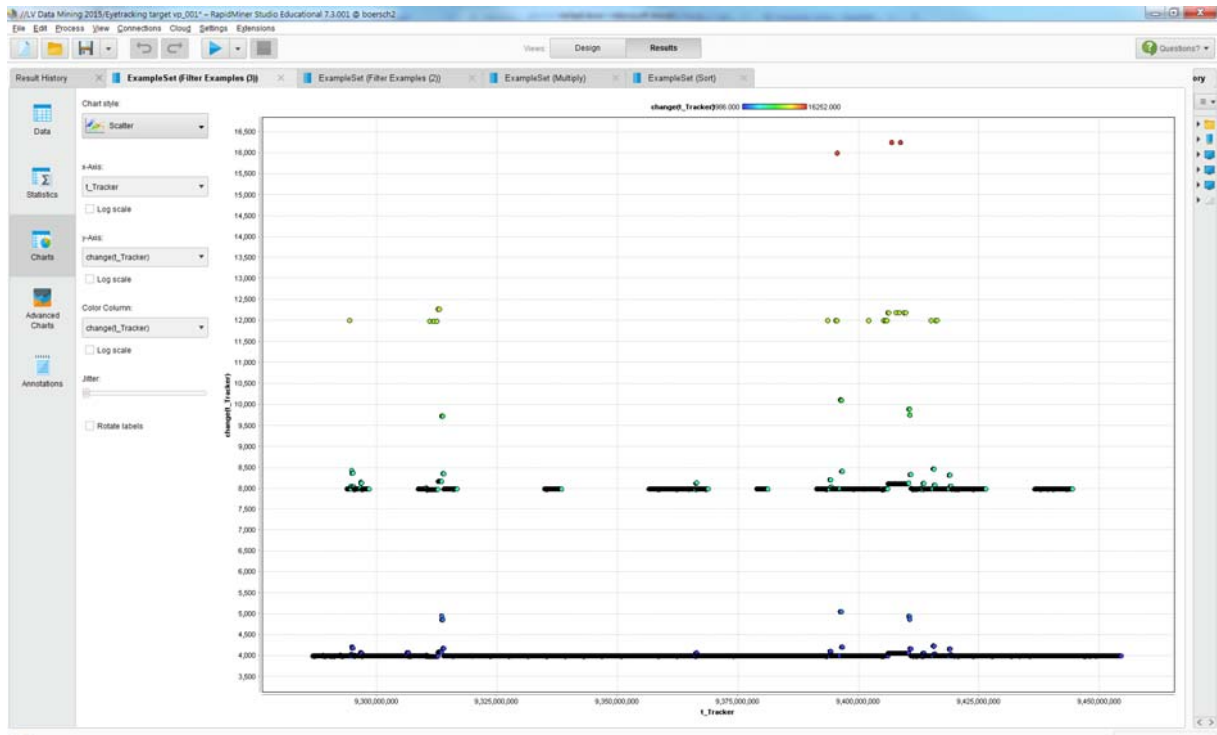
Target: Das Abwechseln verschiedener Zeitabstände:



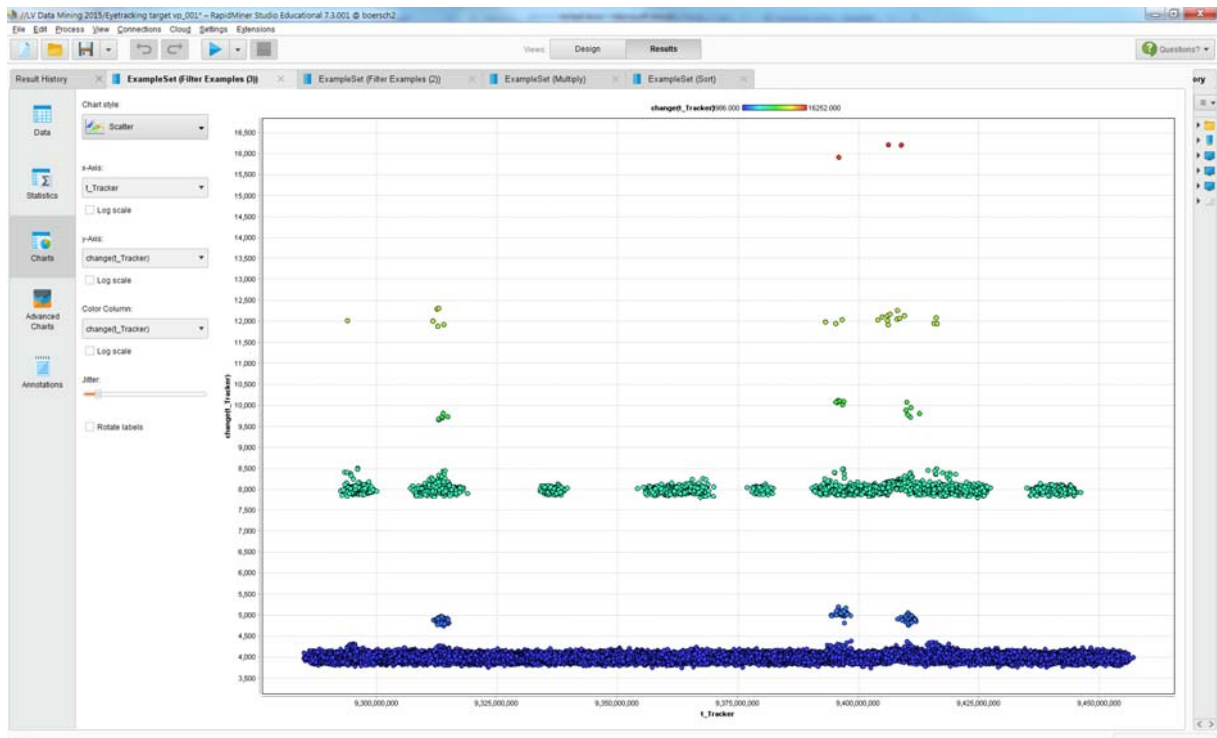
Target: Histogramm der Zeitabstände Logscale:



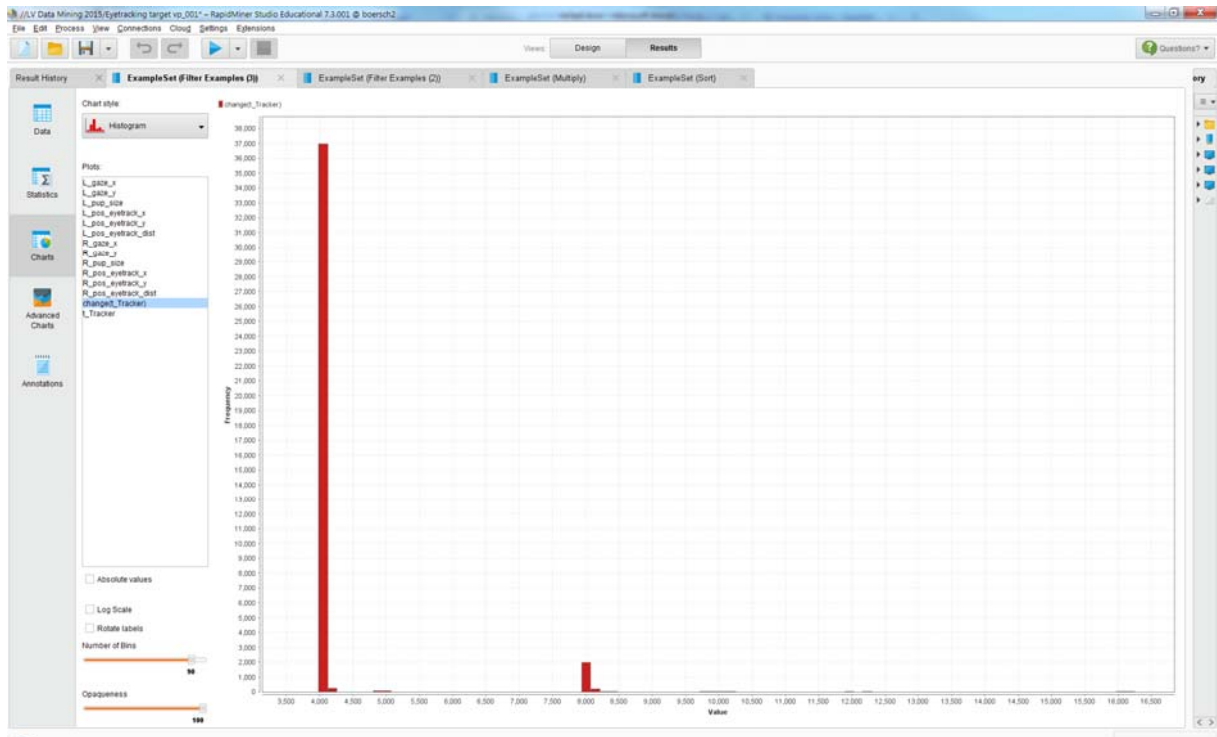
Gaze: Zeitabstände der Trackingdaten



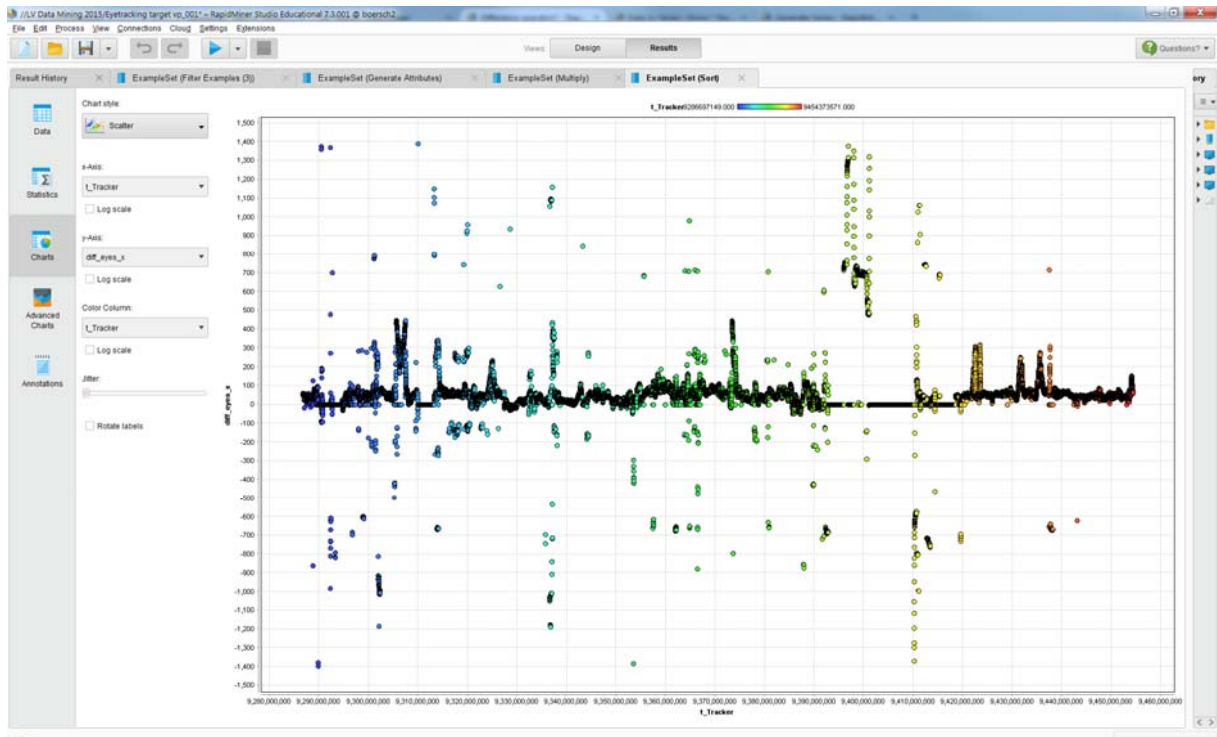
Mit Jitter:



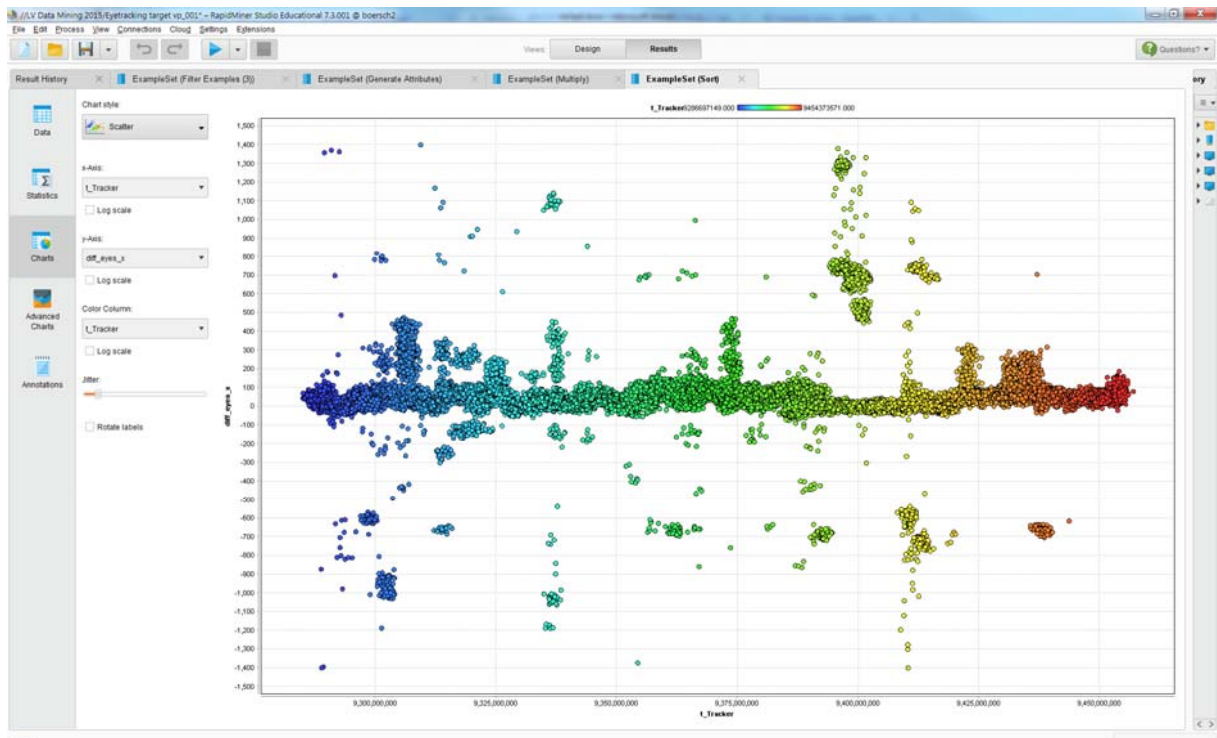
Gaze: Histogramm der Zeitabstände



Gaze: X-Abweichung der Augen ändert sich phasenweise?, Eyes_diff_x: $L_gaze_x - R_gaze_x$



Deutlicher mit Jitter, fast schon Phasen erkennbar:



Augen-X-Differenz überlagert mit dem Target pix_x, um die Segmente zusehen: kein Phasenzusammenhang, oder?

