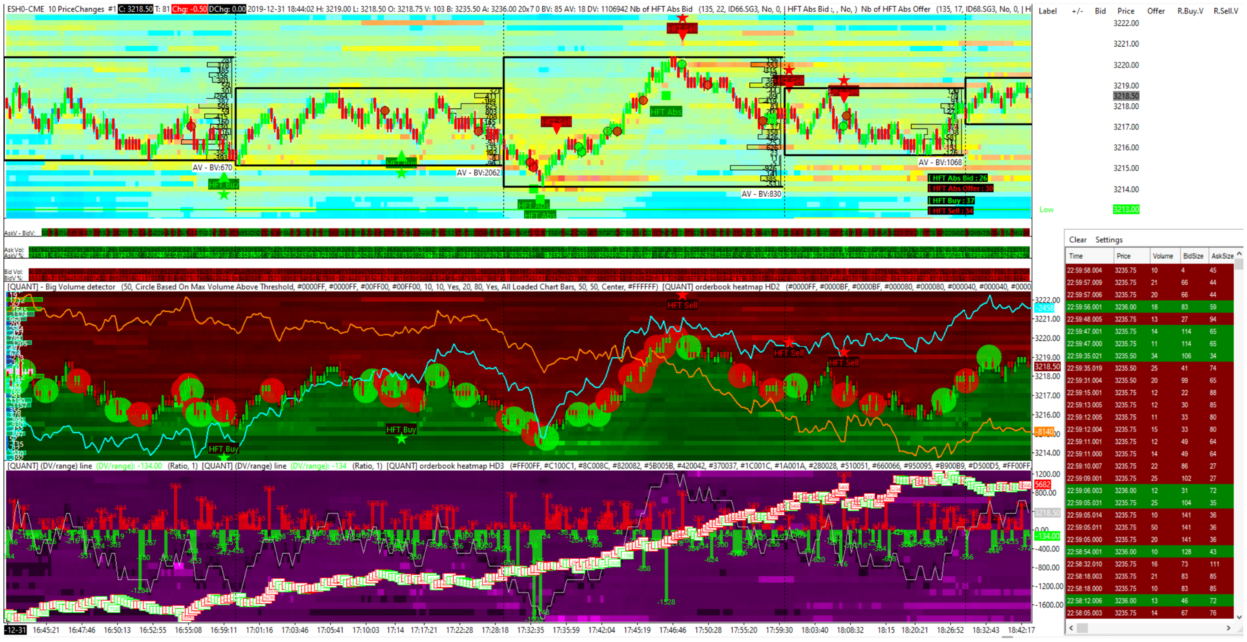
[QUANT] - Orderflow Analyzer (version beta) 2020

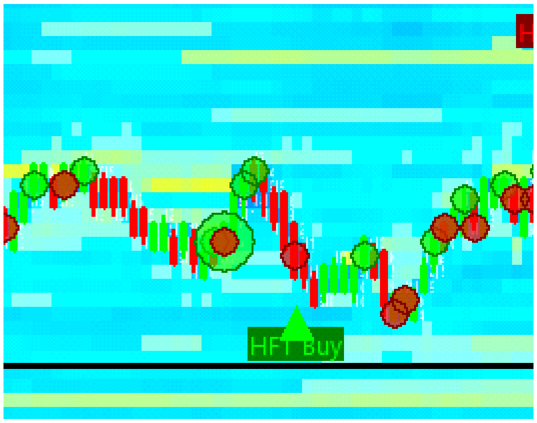

HFT Buy
HFT Sell
HFT Abs
AV - BV:670
AV - BV:2062
AV - BV:830
AV - BV:1068
HFT Abs Bid : 26
HFT Abs Offer : 30
HFT Buy : 37
HFT Sell : 34
Label
Bid
Price
Offer
R.Buy.V
R.Sell.V
Clear
Settings
Time
Price
Volume
BidSize
AskSize

Introduction :

The general idea behind these new tools that i have recently developped is to be able to detect and measure the main absorption process. I have used here a three dimensionnal dom heatmap on the same chart, and for the same instrument.

As you can see here, there are globally three main region with three different dom heatmap.

1) the first dom heatmap will be displayed like a pure and traditionnal heatmap, with the standard and classical coloration logic method.



We have here the same shade of same color for the bid side and for the offer side ! Only the size of the limit orders are considered on these dom heatmap.

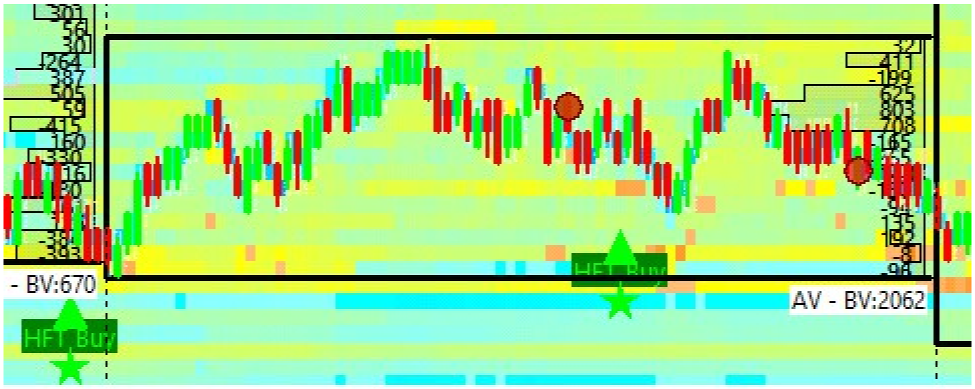
The biggest the limit orders size from the DOM are, the more you will see some hot color (orange and red).

The lowest the limit orders size from the DOM are, the less you will see some cold color (blue and cyan).

For each rectangle drawn in black, we have highlighted a period of 30 minutes of trading ; you can see in whyte at the bottom of each black rectangle the delta volume value cumuated for this period of 30 minutes. (range box).

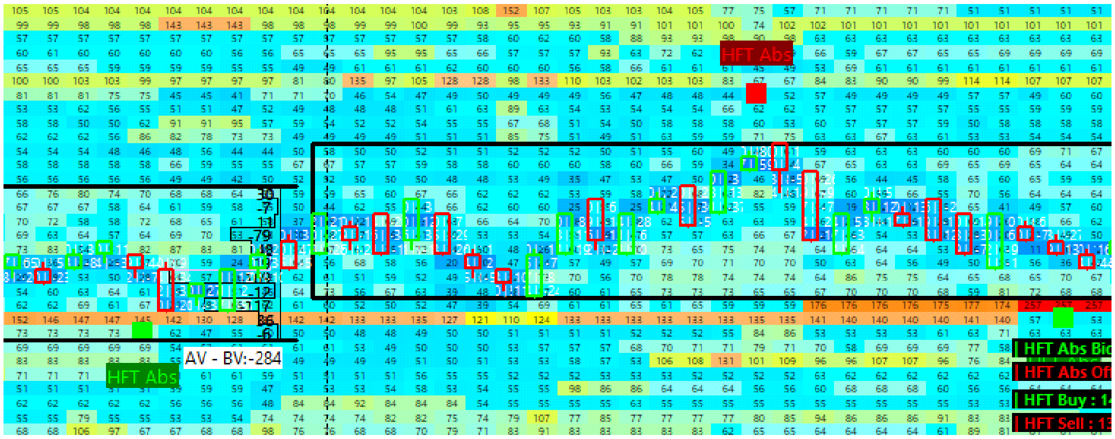
The biggest volume filled are noticed by a red or green bubble. These bubble are designed in different size which are defined manually.

We can also see a volume profil at the right side of each rectangle ; these profil are showing the delta volume value for each price level of the range box. (30 minutes)



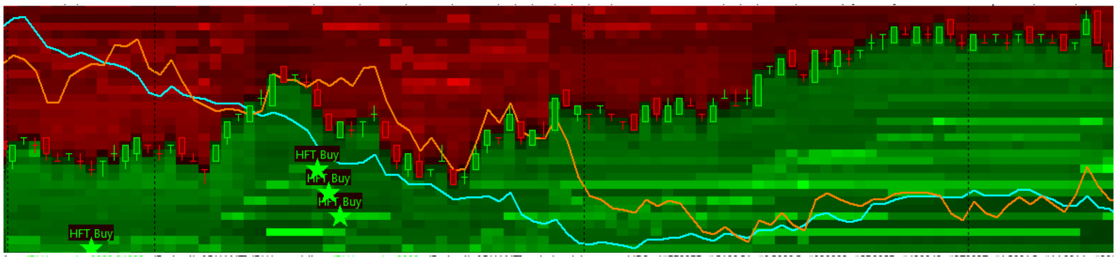
The HFT Buy and Sell alert has been kept here and it is showing a momentum on the market making behaviour (with the famous (CDV-CDUDTV) delta).

The HFT Abs alert has been added ; By HFT Abs alert, i mean HFT absorption alert ! This alert will be printed on the region 1, only when you have an absorption rate which is superior to an X value (defined manually)

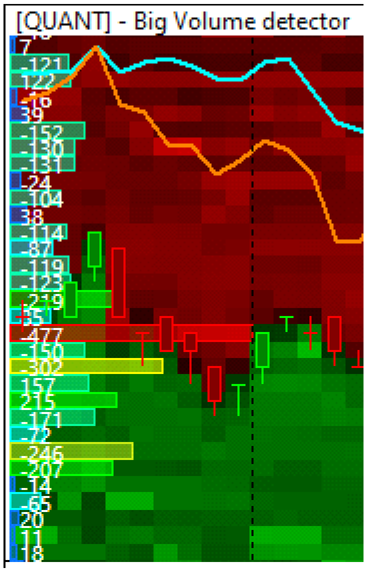


2) On the second DOM heatmap you will find the classic market making view that we have traditionnally on the quant spread tracker ; this dom heatmap has a shade of green color for the bid side ; and a shade of red color for the offer side.

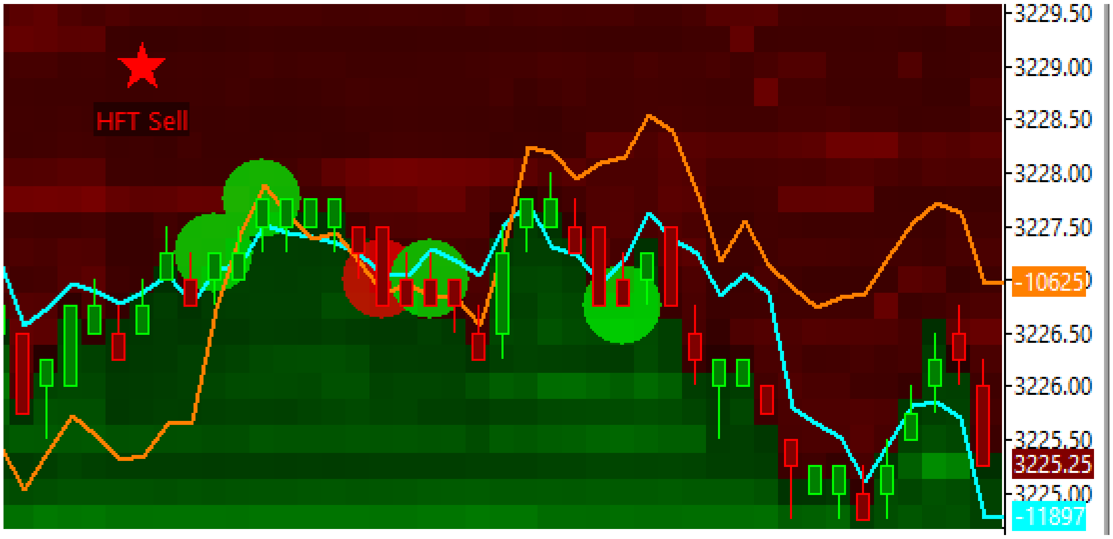
I have added the famous CDV and CDUDTV line, and i have inserted only the HFT alert which are into the same direction than the market making behaviour (with a little star below or above each HFT buy or sell alert)



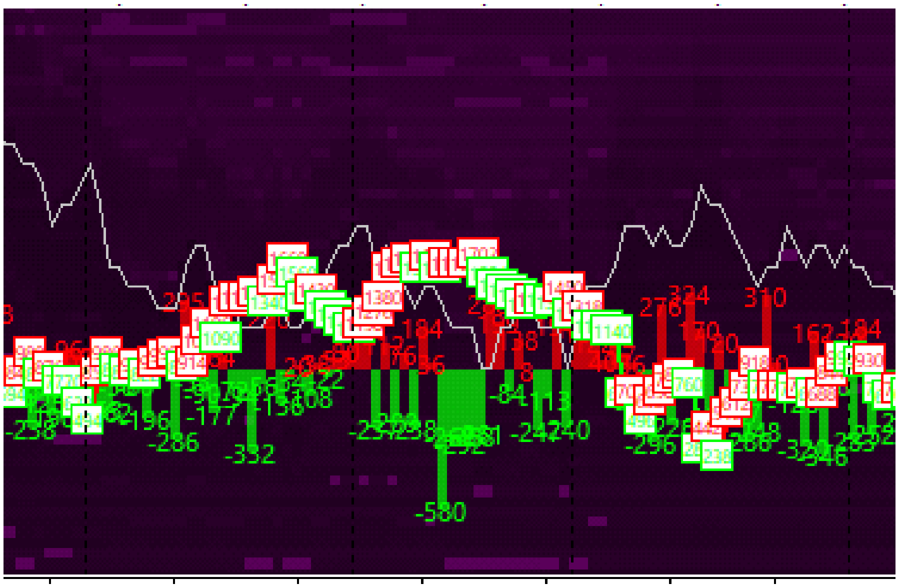
The volume profil that you can see on the left side of this region 2 will display the entire delta volume value, cumulated per price level, and that since the open of the day ! it's a daily delta volume profil.


[QUANT] - Big Volume detector
7
-121
122
-16
39
-152
-130
-131
-24
-104
38
-114
-87
-119
-123
219
55
-477
-150
-302
157
215
-171
-72
-246
-207
-14
-65
20
11
18

You can also see some red and green bubble on these second region ! they are here to illustrate the size of the biggest buy and sell market orders (volume) ; therefore, these bubble type are designed to adjust their size depending on the price bar you can see on the chart ! It's largely more "dynamic" than the other bubble type that we can find on the region 1.


HFT Sell
3229.50
3229.00
3228.50
3228.00
3227.50
-10625
3226.50
3226.00
3225.50
3225.25
3225.00
-11897

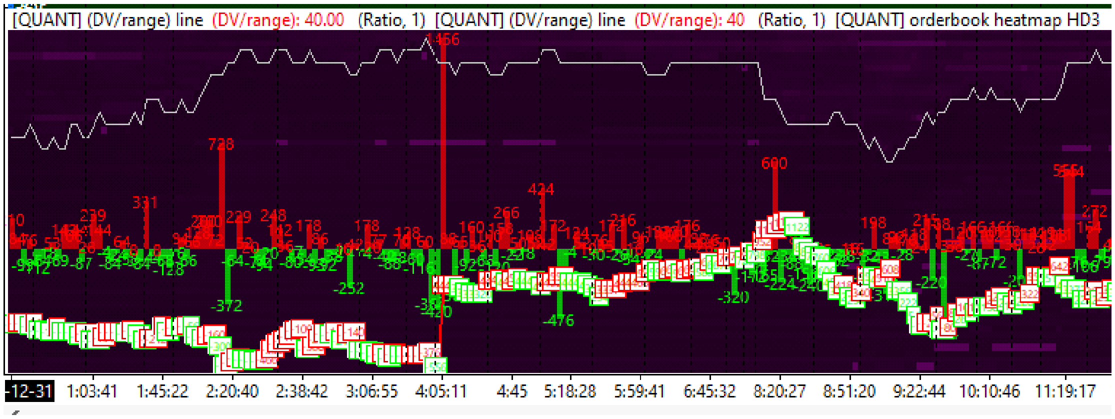
3) On the third region, you can see a pure purple dom heatmap ! It is manually adjusted if needed. On this dom heatmap, we can see the absorption rate with this red and green histogramm !



This absorption rate, or absorption degree is calculated as follow :

Absorption degree = (Delta Volume of the price bar / Range of the price bar).

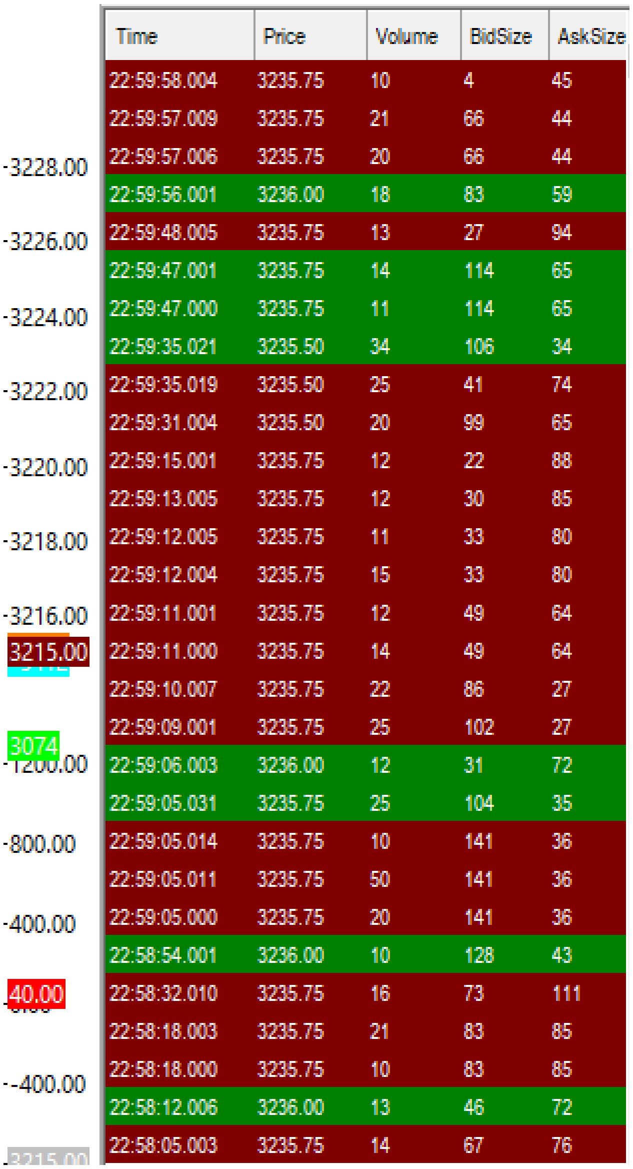
This histogramm with the absorption degree will help you to measure the real strenght of the absorption phenomena ; and you will be abe to measure and compare these different absorption degree each other.



[QUANT] (DV/range) line (DV/range): 40.00 (Ratio, 1) [QUANT] (DV/range) line (DV/range): 40 (Ratio, 1) [QUANT] orderbook heatmap HD3
1466
728
331
239
248
178
178
424
266
600
5564
198
215
-372
-252
-420
-476
-320
-224
-220
-12-31
1:03:41
1:45:22
2:20:40
2:38:42
3:06:55
4:05:11
4:45
5:18:28
5:59:41
6:45:32
8:20:27
8:51:20
9:22:44
10:10:46
11:19:17

The whyte line is a price line ; and the red/green line with the little rectangle is the (CDV-CDUDTV) delta which is cumulated since the open. It will help us to compare the absorption phenomena, with the market making behaviour ! when these two parameters are matching together, it's a real good clue to expect a standard market making price moovement.

On the extreme right side of the tools, you can see a classic tape ! time and sales windows.

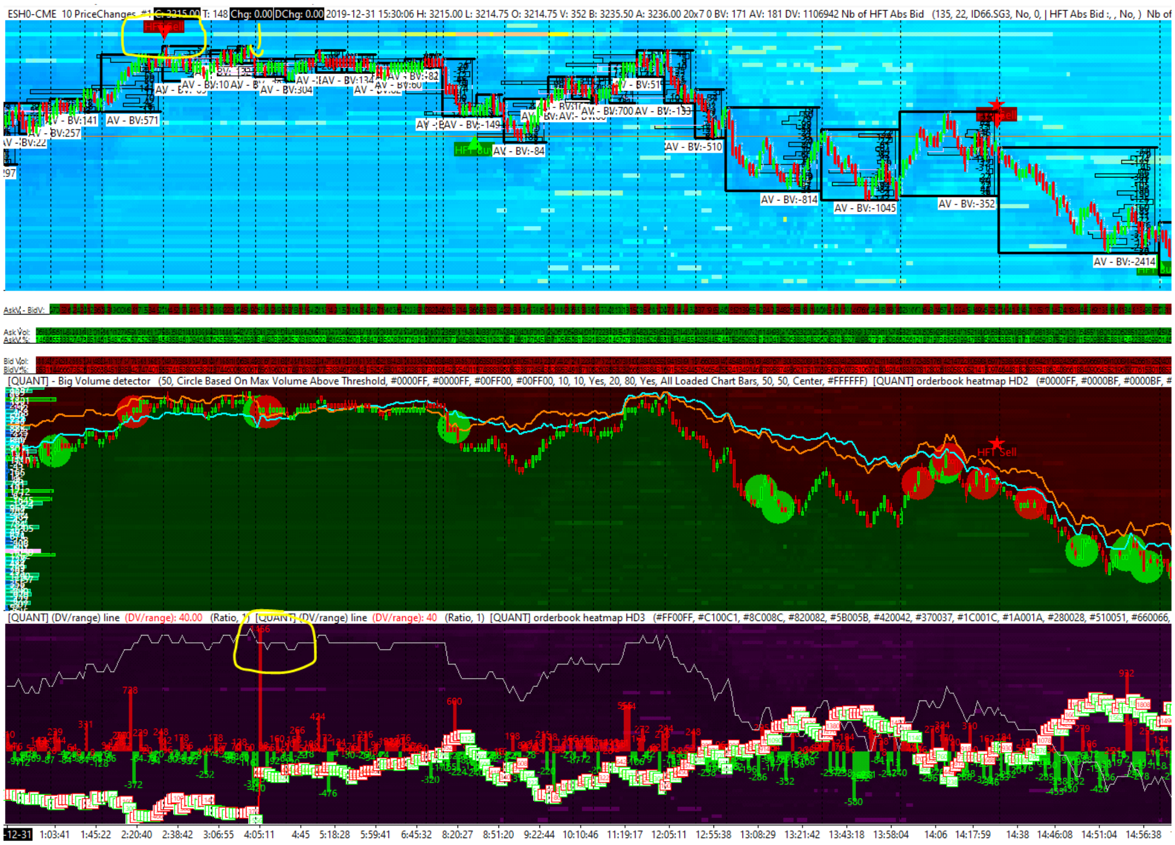


Time	Price	Volume	BidSize	AskSize
22:59:58.004	3235.75	10	4	45
22:59:57.009	3235.75	21	66	44
22:59:57.006	3235.75	20	66	44
22:59:56.001	3236.00	18	83	59
22:59:48.005	3235.75	13	27	94
22:59:47.001	3235.75	14	114	65
22:59:47.000	3235.75	11	114	65
22:59:35.021	3235.50	34	106	34
22:59:35.019	3235.50	25	41	74
22:59:31.004	3235.50	20	99	65
22:59:15.001	3235.75	12	22	88
22:59:13.005	3235.75	12	30	85
22:59:12.005	3235.75	11	33	80
22:59:12.004	3235.75	15	33	80
22:59:11.001	3235.75	12	49	64
22:59:11.000	3235.75	14	49	64
22:59:10.007	3235.75	22	86	27
22:59:09.001	3235.75	25	102	27
22:59:06.003	3236.00	12	31	72
22:59:05.031	3235.75	25	104	35
22:59:05.014	3235.75	10	141	36
22:59:05.011	3235.75	50	141	36
22:59:05.000	3235.75	20	141	36
22:58:54.001	3236.00	10	128	43
22:58:32.010	3235.75	16	73	111
22:58:18.003	3235.75	21	83	85
22:58:18.000	3235.75	10	83	85
22:58:12.006	3236.00	13	46	72
22:58:05.003	3235.75	14	67	76

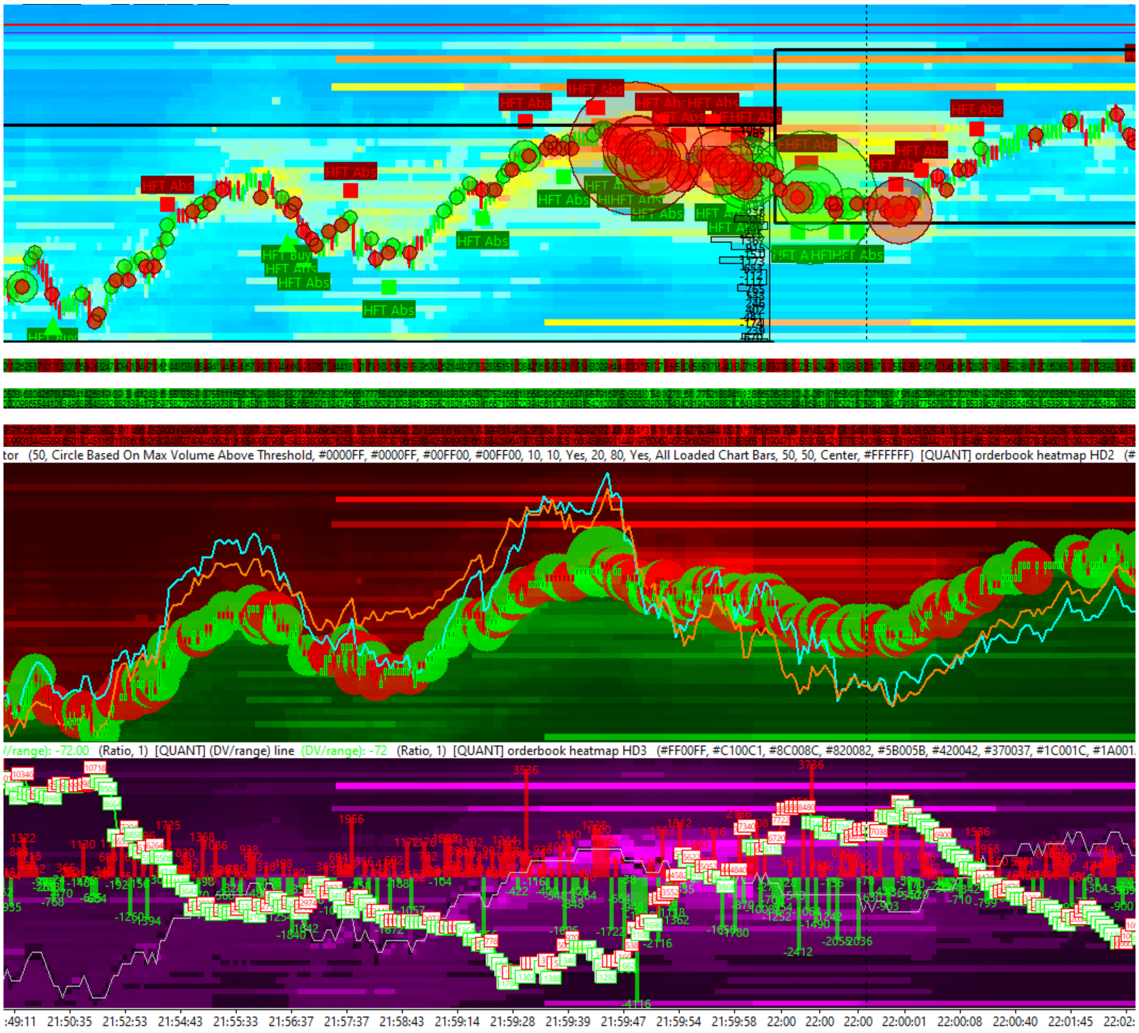
These tape is filtered to show only the biggest volume transacted ! I have also added the bid size column and the offer size collumn, in order to show which was the size value who was there during the transaction. Usefull to detect some noticable iceberg orders for example.

Conclusion and goal of this [QUANT] OrderFlow Analyzer tool :

----> this tools is highly and mainly focused on the studie of the absorption phenomena.


ESH0-CME 10 PriceChanges #1 C: 3215.00 T: 148 Chg: 0.00 DChg: 0.00 2019-12-31 15:30:06 H: 3215.00 L: 3214.75 O: 3214.75 V: 352 B: 3235.50 A: 3236.00 20x7 0 BV: 171 AV: 181 DV: 1106942 Nb of HFT Abs Bid (135, 22, ID66.SG3, No, 0, | HFT Abs Bid :, , No,) Nb of
AV - BV:141
AV - BV:571
AV - BV:257
AV - BV:304
AV - BV:700
AV - BV:-84
AV - BV:-510
AV - BV:-814
AV - BV:-1045
AV - BV:-352
AV - BV:-2414
AskV - BidV:
Ask Vol:
AskV%:
Bid Vol:
BidV%:
[QUANT] - Big Volume detector (50, Circle Based On Max Volume Above Threshold, #0000FF, #0000FF, #00FF00, #00FF00, 10, 10, Yes, 20, 80, Yes, All Loaded Chart Bars, 50, 50, Center, #FFFFFF) [QUANT] orderbook heatmap HD2 (#0000FF, #0000BF, #0000BF, #
HFT Sell
[QUANT] (DV/range) line (DV/range): 40.00 (Ratio, 1) [QUANT] (DV/range) line (DV/range): 40 (Ratio, 1) [QUANT] orderbook heatmap HD3 (#FF00FF, #C100C1, #8C008C, #820082, #5B005B, #420042, #370037, #1C001C, #1A001A, #280028, #510051, #660066,
1:03:41
1:45:22
2:20:40
2:38:42
3:06:55
4:05:11
4:45
5:18:28
5:59:41
6:45:32
8:20:27
8:51:20
9:22:44
10:10:46
11:19:17
12:05:11
12:55:38
13:08:29
13:21:42
13:43:18
13:58:04
14:06
14:17:59
14:38
14:46:08
14:51:04
14:56:38

---> this tools is highly visual with these three dimensional heatmap, and the coloration logic method has been improoved to help the trader to get the data very fast, and to be able to see quickly which data he need to plot.

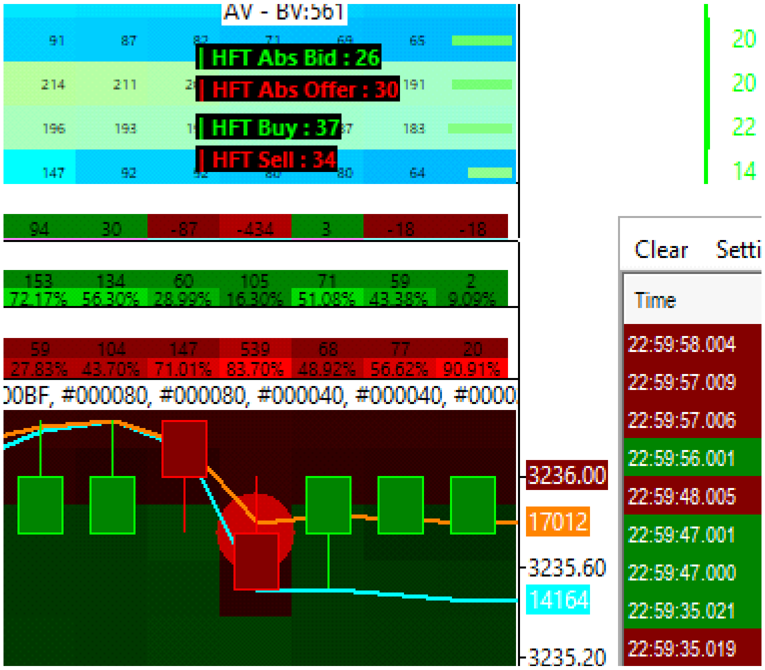


tor (50, Circle Based On Max Volume Above Threshold, #0000FF, #0000FF, #00FF00, #00FF00, 10, 10, Yes, 20, 80, Yes, All Loaded Chart Bars, 50, 50, Center, #FFFFFF) [QUANT] orderbook heatmap HD2 (#

/range): -72.00 (Ratio, 1) [QUANT] (DV/range) line (DV/range): -72 (Ratio, 1) [QUANT] orderbook heatmap HD3 (#FF00FF, #C100C1, #8C008C, #820082, #5B005B, #420042, #370037, #1C001C, #1A001

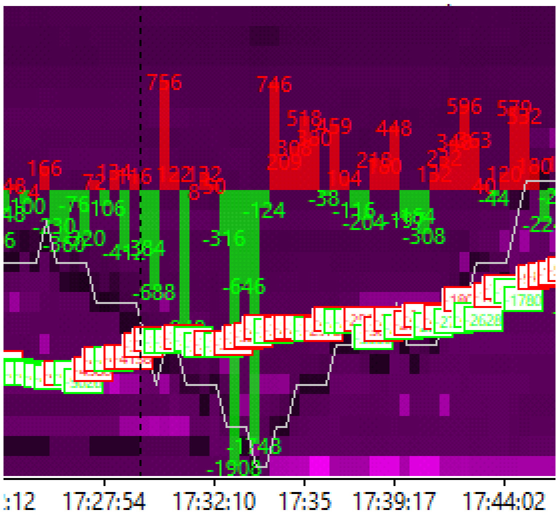
HFT Abs
HFT Buy
3536
3736
1956
:49:11
21:50:35
21:52:53
21:54:43
21:55:33
21:56:37
21:57:37
21:58:43
21:59:14
21:59:28
21:59:39
21:59:47
21:59:54
21:59:58
22:00
22:00
22:00
22:00:01
22:00:08
22:00:40
22:01:45
22:02:

----> the market making behaviour data are still here and the logic is still here (CDV, CDUDTV, etc) ; the different orderflow data, and market making behaviour data has been preserved and sorted on the different region of the tools.

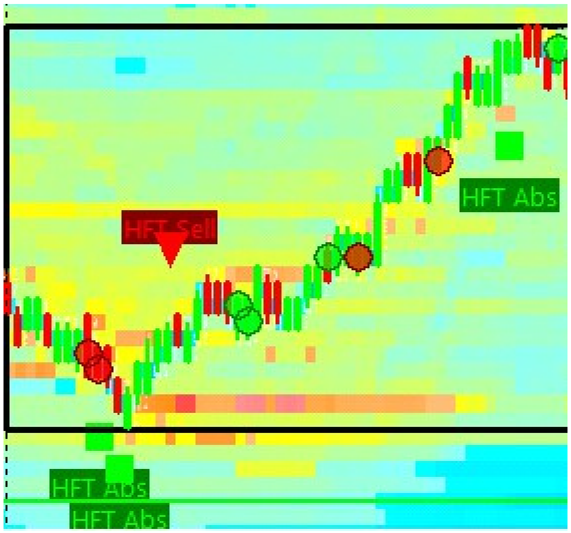

AV - BV:561
| HFT Abs Bid : 26
| HFT Abs Offer : 30
| HFT Buy : 37
| HFT Sell : 34
3236.00
17012
3235.60
14164
3235.20
20
20
22
14
Clear
Setti

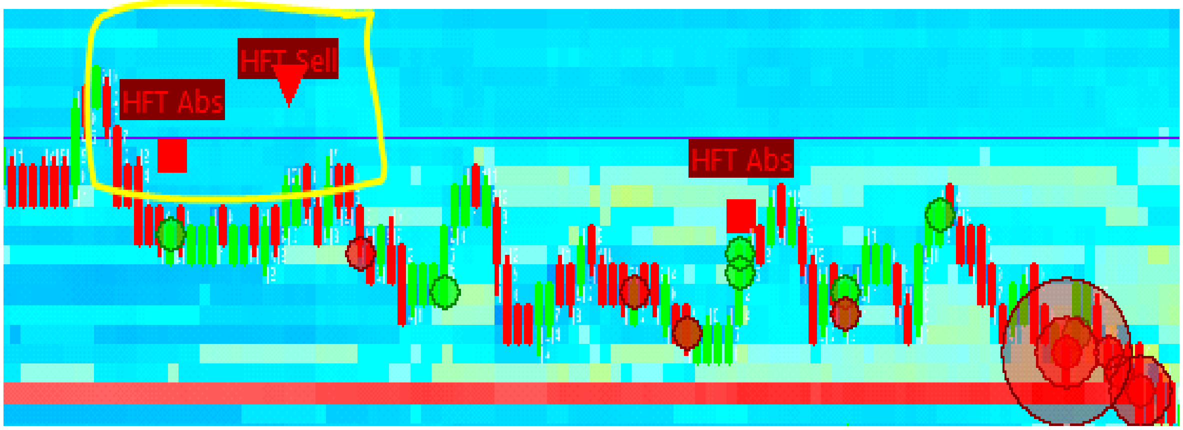
Time
22:59:58.004
22:59:57.009
22:59:57.006
22:59:56.001
22:59:48.005
22:59:47.001
22:59:47.000
22:59:35.021
22:59:35.019

----> the absorption degree is now clearly measured and illustrated with a propper histogramm in order to detect correctly and measure the different absorption powerness with more efficiency.


756
746
596
166
-316
-646
-688
-1908
17:27:54
17:32:10
17:35
17:39:17
17:44:02

---> A specific alert has been specially designed to detect the biggest absorption degree value, in order to be alerted and informed of the most important absorption phenomena that occure during the day.



---> the main goal and the main target is to be able to match the different market making behaviour signal, and stop loss hunting logic, with these different absorption phenomena ! When these two logic are pointing to the same direction, we can be more sure, that the market making is effective.