

国泰君安191因子回测-121-130

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1 Alpha121

$$\begin{aligned} Alpha = & ((RANK((VWAP - MIN(VWAP, 12))) * *TSRANK(CORR(TSRANK(VWAP, 20), \\ & TSRANK(MEAN(VOLUME, 60), 2), 18), 3)) * -1) \end{aligned} \quad (1)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	0.11	0.62	44.02	0.19(0.012)	4.64	0.52	0.54	0.02	207 X 256	14.28	14.01	-13.1	-0.0006
20110101-20111231	10.0	-10.0	0.27	1.37	42.39	0.51(0.032)	4.16	0.53	1.28	0.09	253 X 311	-28.74	-39.34	31.46	0.0028
20120101-20121231	10.0	-10.0	0.69	3.53	43.3	1.51(0.096)	5.92	0.54	3.26	0.43	442 X 541	11.08	3.25	-4.03	0.0091
20130101-20131231	10.0	-10.0	-0.02	-0.08	39.34	-0.04(-0.002)	6.07	0.47	-0.08	-0.0	840 X 1023	23.61	19.03	-23.77	-0.0021
20140101-20141231	10.0	-10.0	1.84	9.4	38.86	4.97(0.314)	2.28	0.65	9.68	2.44	759 X 916	48.74	35.54	-29.94	0.0172
20150101-20151231	10.0	-10.0	1.91	9.77	39.1	3.08(0.195)	6.51	0.59	9.99	1.54	604 X 725	77.13	46.78	-57.61	0.0126
20160101-20161231	10.0	-10.0	1.18	6.02	39.33	4.26(0.269)	1.32	0.64	6.12	1.67	862 X 1040	-2.67	-15.42	14.71	0.0122
20170101-20171231	10.0	-10.0	-0.86	-4.38	38.03	-2.14(-0.135)	10.69	0.46	-4.61	-0.73	1042 X 1280	-17.92	0.88	9.16	-0.0056
20180101-20181231	10.0	-10.0	1.03	5.28	37.72	2.04(0.129)	4.76	0.56	5.61	0.76	1265 X 1537	-26.21	-38.75	36.79	0.0107
20190101-20191231	10.0	-10.0	0.1	0.5	37.35	0.24(0.015)	4.97	0.49	0.54	0.03	1416 X 1737	26.64	26.71	-25.64	0.0007
20200101-20200331	10.01	-10.0	-0.03	-0.67	36.16	-0.17(-0.011)	6.55	0.43	-0.74	-0.02	1496 X 1809	-11.9	-12.47	10.56	-0.002
20100104-20200331	10.0	-10.0	6.21	3.12	39.85	1.25(0.079)	14.01	0.54	3.13	0.35	786 X 957	12.03	4.85	-5.79	0.0056

Figure 1: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.6312	6.91	2.69	-0.04	7.44	133	213652_h16176
0.6198	4.9	2.79	nan	5.04	97	215063_qh4
0.6173	3.39	2.85	1.25	1.96	97	215063_qh103

Figure 2: 相关性结果

2 Alpha122

$$\begin{aligned} Alpha = & (SMA(SMA(SMA(LOG(CLOSE), 13, 2), 13, 2), 13, 2) - DELAY(SMA(SMA(SMA(LOG(CLOSE), 13, 2), 13, 2), 13, 2), 13, 2), 1) \\ & / DELAY(SMA(SMA(SMA(LOG(CLOSE), 13, 2), 13, 2), 13, 2), 1) \end{aligned} \quad (2)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-0.55	-2.85	5.68	-0.6(-0.038)	11.66	0.46	-20.08	-0.43	834 X 980	9.02	14.01	-14.72	-0.0026
20110101-20111231	10.0	-10.0	-0.64	-3.26	5.0	-0.77(-0.049)	14.2	0.5	-26.11	-0.62	989 X 1156	-38.38	-39.34	31.85	-0.0056
20120101-20121231	10.0	-10.0	-3.28	-16.86	4.98	-4.7(-0.297)	32.97	0.37	-135.31	-8.65	1133 X 1240	-12.17	3.25	-21.55	-0.0302
20130101-20131231	10.0	-10.0	-0.76	-3.98	4.6	-0.73(-0.046)	17.18	0.53	-34.58	-0.68	1044 X 1403	20.26	19.03	-28.21	-0.0011
20140101-20141231	9.91	-10.0	-1.32	-6.74	4.85	-1.56(-0.099)	22.87	0.44	-55.74	-1.84	1059 X 1452	34.5	35.54	-47.67	-0.0064
20150101-20151231	9.76	-10.0	-8.54	-44.45	5.09	-4.99(-0.316)	87.55	0.38	-348.2	-14.75	1160 X 1544	30.8	46.78	-117.61	-0.039
20160101-20161231	9.37	-9.98	-4.21	-22.35	4.99	-3.9(-0.246)	44.99	0.43	-178.71	-8.24	1114 X 1751	-43.78	-15.42	-2.17	-0.0236
20170101-20171231	9.38	-9.97	-2.24	-11.68	5.09	-1.59(-0.1)	36.16	0.44	-93.02	-2.41	1265 X 1985	-39.76	0.88	14.44	-0.0122
20180101-20181231	9.86	-10.0	-2.53	-13.1	4.56	-2.67(-0.169)	30.52	0.43	-115.24	-4.53	1743 X 1770	-54.46	-38.75	27.61	-0.0199
20190101-20191231	9.82	-9.99	-1.49	-7.67	4.81	-1.91(-0.121)	18.18	0.47	-63.98	-2.41	1644 X 1973	7.54	26.71	-22.66	-0.0071
20200101-20200331	9.85	-10.0	-0.56	-12.11	6.14	-2.19(-0.138)	11.45	0.45	-78.89	-3.08	1527 X 2161	-34.48	-12.47	9.94	-0.0136
20100104-20200331	9.81	-9.99	-26.11	-13.29	4.99	-2.37(-0.15)	268.5	0.45	-106.09	-3.87	1207 X 1541	-8.98	4.85	-17.43	-0.0148

Figure 3: 回测结果

-0.6354	3.72	2.65	1.96	4.28	100	214823_pv_model_3_gen4_191114_178
-0.6417	2.76	2.93	2.44	3.18	75	215796_yf4
-0.9164	3.32	4.02	1.31	5.83	175	211919_my_42

Figure 4: 相关性结果

3 Alpha123

$$\text{Alpha} = ((\text{RANK}(\text{CORR}(\text{SUM}(((\text{HIGH} + \text{LOW})/2), 20), \text{SUM}(\text{MEAN}(\text{VOLUME}, 60), 20), 9)) - \text{RANK}(\text{CORR}(\text{LOW}, \text{VOLUME}, 6))) * -1) \quad (3)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-0.39	-2.01	59.61	-0.5(-0.032)	8.95	0.47	-1.36	-0.09	203 X 196	9.79	14.01	-13.84	-0.0056
20110101-20111231	10.0	-10.0	-0.76	-3.89	58.73	-1.28(-0.081)	10.94	0.46	-2.65	-0.33	253 X 249	-35.75	-39.34	27.96	-0.0043
20120101-20121231	10.0	-10.0	-0.86	-4.4	54.69	-1.79(-0.113)	12.18	0.49	-3.22	-0.51	457 X 445	1.74	3.25	-10.56	-0.0068
20130101-20131231	10.0	-10.0	0.47	2.49	52.59	1.19(0.075)	4.35	0.53	1.89	0.26	987 X 960	27.1	19.03	-22.13	0.003
20140101-20141231	10.0	-10.0	0.14	0.7	53.25	0.34(0.022)	4.62	0.5	0.53	0.04	884 X 856	39.9	35.54	-38.49	0.0019
20150101-20151231	9.99	-10.0	-0.58	-2.96	53.48	-0.6(-0.038)	13.86	0.48	-2.22	-0.14	661 X 648	66.77	46.78	-72.65	-0.0008
20160101-20161231	10.0	-10.0	-0.55	-2.81	52.96	-1.45(-0.092)	11.08	0.46	-2.13	-0.33	962 X 949	-12.95	-15.42	7.32	-0.0035
20170101-20171231	10.0	-10.0	-0.79	-4.02	51.67	-2.51(-0.159)	9.0	0.45	-3.11	-0.7	1203 X 1176	-19.24	0.88	11.2	-0.0076
20180101-20181231	10.0	-10.0	-1.1	-5.67	51.31	-3.62(-0.229)	11.03	0.41	-4.42	-1.2	1455 X 1422	-38.36	-38.75	27.03	-0.0093
20190101-20191231	10.0	-10.0	-0.8	-4.11	51.16	-2.79(-0.177)	8.99	0.39	-3.21	-0.79	1709 X 1655	20.78	26.71	-29.02	-0.0075
20200101-20200331	10.01	-9.97	-0.16	-3.38	53.29	-1.16(-0.073)	4.24	0.47	-2.53	-0.29	1807 X 1686	-9.13	-12.47	2.43	-0.0034
20100104-20200331	10.0	-10.0	-5.37	-2.69	53.93	-0.98(-0.062)	57.56	0.46	-2.0	-0.22	899 X 875	5.6	4.85	-11.0	-0.0041

Figure 5: 回测结果

-0.4517	4.1	6.05	0.95	2.14	90	215419_fac12
-0.4645	4.62	5.89	2.2	2.24	97	215072_fac252
-0.4879	3.93	2.44	1.75	1.63	97	215058_fac7

Figure 6: 相关性结果

4 Alpha124

$$\text{Alpha} = (\text{CLOSE} - \text{VWAP}) / \text{DECAYLINEAR}(\text{RANK}(\text{TSMAX}(\text{CLOSE}, 30)), 2) \quad (4)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-5.97	-30.84	142.22	-4.87(-0.308)	61.64	0.33	-8.67	-2.27	825 X 949	-24.04	14.01	-37.64	-0.0093
20110101-20111231	10.0	-10.0	-3.94	-20.19	139.82	-4.05(-0.256)	40.86	0.4	-5.78	-1.54	998 X 1113	-53.62	-39.34	13.24	-0.0064
20120101-20121231	10.01	-10.0	-2.43	-12.67	140.74	-2.7(-0.171)	25.76	0.41	-3.56	-0.81	1119 X 1234	-10.04	3.25	-15.0	-0.0045
20130101-20131231	10.0	-10.0	-5.8	-30.49	143.96	-5.89(-0.372)	58.74	0.34	-8.47	-2.71	1146 X 1300	-16.84	19.03	-44.13	-0.0101
20140101-20141231	10.0	-10.0	-5.39	-27.52	144.47	-4.46(-0.282)	56.37	0.34	-7.62	-1.95	1136 X 1364	7.74	35.54	-62.77	-0.0087
20150101-20151231	10.02	-10.0	-8.59	-44.56	140.93	-3.56(-0.225)	86.29	0.37	-12.47	-2.0	1235 X 1453	3.78	46.78	-91.73	-0.0088
20160101-20161231	9.99	-10.0	-4.12	-21.11	146.78	-3.47(-0.219)	41.48	0.32	-5.75	-1.32	1339 X 1512	-51.02	-15.42	8.77	-0.007
20170101-20171231	10.0	-10.0	-2.97	-15.2	145.26	-3.81(-0.241)	30.49	0.36	-4.19	-1.23	1516 X 1695	-43.66	0.88	13.25	-0.0065
20180101-20181231	9.99	-10.0	-5.29	-27.17	145.84	-5.17(-0.327)	54.52	0.33	-7.48	-2.23	1678 X 1824	-77.42	-38.75	22.85	-0.0086
20190101-20191231	9.98	-10.0	-3.19	-16.46	145.0	-2.77(-0.175)	33.6	0.39	-4.51	-0.93	1798 X 1896	-5.7	26.71	-27.01	-0.0058
20200101-20200331	9.91	-10.03	-0.32	-6.46	147.46	-1.26(-0.08)	6.22	0.41	-1.85	-0.26	1680 X 1997	-38.33	-12.47	24.33	-0.002
20100104-20200331	10.0	-10.0	-48.02	-24.18	143.59	-3.71(-0.235)	481.43	0.36	-6.72	-1.52	1280 X 1448	-27.33	4.85	-20.91	-0.0074

Figure 7: 回测结果

-0.5423	5.05	4.39	1.5	2.85	146	213024_agen.ZSAlpha_30
-0.5428	3.63	2.06	0.6	1.49	175	211936_my_H804
-0.9974	3.37	4.64	1.43	1.47	175	211919_my_83

Figure 8: 相关性结果

5 Alpha125

$$\text{Alpha} = (\text{RANK}(\text{DECAYLINEAR}(\text{CORR}((\text{VWAP}), \text{MEAN}(\text{VOLUME}, 80), 17), 20))) / \text{RANK}(\text{DECAYLINEAR}(\text{DELTA}(((\text{CLOSE} * 0.5) + (\text{VWAP} * 0.5))), 3), 16))) \quad (5)$$

calculate simu2 time of parallel 19.593360900878906

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	0.45	2.31	28.16	0.42(0.027)	11.87	0.43	3.3	0.12	307 X 922	17.67	14.01	-13.03	0.0002
20110101-20111231	10.0	-10.0	0.46	2.34	19.38	0.6(0.038)	5.35	0.49	4.83	0.21	370 X 1302	-31.52	-39.34	36.2	0.0012
20120101-20121231	10.0	-10.0	1.48	7.62	23.06	2.18(0.138)	6.86	0.55	13.22	1.25	426 X 1688	21.82	3.25	-6.58	0.0033
20130101-20131231	10.0	-10.0	0.28	1.45	25.11	0.3(0.019)	6.62	0.47	2.32	0.07	549 X 1883	25.35	19.03	-22.44	-0.0001
20140101-20141231	10.04	-10.0	1.03	4.81	25.01	0.88(0.056)	7.38	0.46	8.38	0.39	599 X 1872	46.77	35.54	-36.47	0.0016
20150101-20151231	10.08	-9.99	4.02	20.03	26.44	2.54(0.161)	15.69	0.54	31.07	2.21	570 X 2019	109.06	46.78	-68.79	0.0034
20160101-20161231	9.99	-10.0	0.15	0.85	17.42	0.21(0.013)	13.28	0.45	1.8	0.05	618 X 2171	-16.39	-15.42	17.93	-0.0004
20170101-20171231	10.0	-10.0	-1.81	-9.29	16.73	-2.19(-0.138)	20.26	0.45	-22.13	-1.63	649 X 2422	-39.14	0.88	20.63	-0.0022
20180101-20181231	9.95	-10.0	0.11	0.41	17.74	0.09(0.005)	11.96	0.49	1.24	0.01	701 X 2741	-37.94	-38.75	38.84	0.0008
20190101-20191231	9.93	-10.0	0.66	3.68	23.46	0.62(0.039)	20.02	0.49	5.76	0.25	774 X 2798	35.82	26.71	-28.84	0.0013
20200101-20200331	10.02	-10.0	-0.01	-0.19	28.23	-0.02(-0.001)	12.55	0.52	-0.26	-0.0	842 X 2796	0.63	-12.47	-1.0	0.0019
20100104-20200331	10.0	-10.0	6.82	3.34	22.38	0.63(0.04)	39.31	0.48	6.12	0.24	563 X 2002	12.96	4.85	-6.11	0.0009

Figure 9: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.3852	4.64	6.52	5.52	2.47	100	214893_pv_model_7_mod_gen4_191114_107
0.3797	3.48	4.27	2.2	4.56	175	211919_my_11
0.3767	3.52	4.18	1.33	1.74	98	215029_pv_model_10_mod_gen2_191114_206

Figure 10: 相关性结果

6 Alpha126

$$\text{Alpha} = (\text{CLOSE} + \text{HIGH} + \text{LOW})/3 \quad (6)$$

calculate simu2 time of parallel 19.600029900878906

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-2.33	-12.02	1.66	-1.83(-0.115)	25.46	0.38	-290.49	-4.92	526 X 1290	-1.63	14.01	-22.41	-0.0039
20110101-20111231	10.0	-10.0	-0.41	-2.08	1.16	-0.42(-0.026)	12.54	0.48	-71.45	-0.56	608 X 1538	-39.21	-39.34	35.05	-0.0008
20120101-20121231	10.0	-10.0	-0.45	-2.31	1.0	-0.49(-0.031)	16.71	0.44	-92.63	-0.74	632 X 1742	0.71	3.25	-5.35	-0.0014
20130101-20131231	10.0	-10.0	-1.34	-7.04	1.19	-1.21(-0.077)	17.35	0.45	-235.85	-2.94	631 X 1816	13.58	19.03	-27.66	-0.0023
20140101-20141231	9.98	-10.0	-0.44	-2.15	1.45	-0.34(-0.022)	16.43	0.47	-62.2	-0.42	848 X 1663	34.82	35.54	-39.28	-0.0011
20150101-20151231	9.99	-9.97	-1.94	-9.87	2.43	-0.85(-0.054)	59.17	0.47	-163.59	-1.72	903 X 1802	65.4	46.78	-85.45	-0.0013
20160101-20161231	9.99	-9.06	-1.59	-8.17	1.33	-1.45(-0.092)	32.09	0.39	-245.7	-3.59	897 X 1968	-31.9	-15.42	15.61	-0.0022
20170101-20171231	9.99	-9.06	-0.24	-1.24	1.22	-0.26(-0.016)	9.16	0.47	-40.94	-0.26	865 X 2384	-24.73	0.88	22.31	-0.0009
20180101-20181231	10.0	-9.09	-1.35	-6.95	1.44	-1.38(-0.088)	22.3	0.47	-194.04	-3.05	818 X 2694	-49.86	-38.75	35.96	-0.0016
20190101-20191231	10.0	-9.99	-0.63	-3.23	1.53	0.63(-0.04)	14.51	0.44	-84.69	-0.91	849 X 2767	21.89	26.71	-28.39	-0.0012
20200101-20200331	9.99	-9.98	-0.61	-13.02	1.79	-2.16(-0.137)	8.75	0.34	-291.43	-5.83	877 X 2812	-34.81	-12.47	8.7	-0.0044
20100104-20200331	10.0	-9.99	-11.33	-5.67	1.45	-0.89(-0.056)	118.14	0.44	-157.12	-1.77	761 X 1987	-1.89	4.85	-9.51	-0.0017

Figure 11: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
-0.3128	4.35	2.96	2.34	2.59	97	215063_qh45
-0.3522	3.43	4.55	3.86	2.38	175	211919_my_199
-0.3928	2.39	4.49	4.12	1.8	146	213024_agen.ZSAlpha_26

Figure 12: 相关性结果

7 Alpha127

$$Alpha = (MEAN((100 * (CLOSE - MAX(CLOSE, 12)) / (MAX(CLOSE, 12)))^2))^{1/2} \quad (7)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-1.66	-8.57	1.84	-1.33(-0.084)	20.91	0.4	-185.9	-2.87	405 X 1398	-6.44	14.01	-10.69	-0.0094
20110101-20111231	10.0	-10.0	1.31	6.72	1.01	1.64(0.104)	9.27	0.5	265.15	4.23	610 X 1525	-22.38	-39.34	35.82	0.0019
20120101-20121231	10.0	-10.0	0.99	5.1	1.12	1.56(0.099)	5.87	0.53	181.4	3.32	382 X 1985	15.27	3.25	-5.08	0.0023
20130101-20131231	10.0	-10.0	-1.21	-6.37	0.96	-1.67(-0.106)	12.63	0.43	-265.66	-4.31	475 X 1971	9.94	19.03	-22.67	-0.0079
20140101-20141231	10.0	-10.0	3.14	16.03	1.12	2.68(0.17)	6.56	0.49	573.45	10.16	749 X 1760	79.62	35.54	-47.53	0.0057
20150101-20151231	10.0	-10.0	1.77	9.07	2.71	1.38(0.087)	15.26	0.5	133.6	2.52	1017 X 1685	83.74	46.78	-65.68	-0.0001
20160101-20161231	9.97	-9.99	0.72	3.77	1.22	0.99(0.063)	9.59	0.45	121.48	1.74	877 X 1987	0.96	-15.42	6.46	0.0002
20170101-20171231	9.94	-10.0	1.27	6.5	1.45	2.1(0.133)	4.38	0.52	178.97	4.44	1006 X 2240	3.33	0.88	9.66	0.0019
20180101-20181231	10.0	-10.0	1.14	5.84	1.23	2.67(0.169)	4.36	0.59	190.37	5.82	842 X 2670	-25.89	-38.75	37.57	0.0043
20190101-20191231	9.99	-10.0	0.4	2.06	1.32	0.91(0.057)	6.91	0.48	62.26	1.13	572 X 3043	23.28	26.71	-19.15	0.0008
20200101-20200331	10.0	-10.0	-0.18	-3.85	1.34	-1.49(-0.094)	4.43	0.38	-115.07	-2.52	589 X 3098	-32.87	-12.47	25.16	-0.0038
20100104-20200331	9.99	-10.0	7.69	3.87	1.4	0.88(0.055)	22.58	0.49	110.48	1.46	692 X 2052	15.09	4.85	-7.35	-0.0001

Figure 13: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.7991	4.28	4.18	-0.59	4.77	146	213024_agen.ZSAlpha_44
0.7423	2.88	1.37	-2.29	2.0	175	211919_my_2
0.7315	2.2	1.01	-2.14	3.45	52	213716_Lessgerladminexp2mv

Figure 14: 相关性结果

8 Alpha128

$$Alpha = 100 - (100 / (1 + SUM(((HIGH + LOW + CLOSE) / 3 > DELAY((HIGH + LOW + CLOSE) / 3, 1) * (HIGH + LOW + CLOSE) / 3 * VOLUME : 0, 14) / SUM(((HIGH + LOW + CLOSE) / 3 < DELAY((HIGH + LOW + CLOSE) / 3, 1) * (HIGH + LOW + CLOSE) / 3 * VOLUME : 0, 14))) \quad (8)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-2.28	-11.78	40.9	-2.61(-0.165)	25.56	0.42	-11.52	-1.4	740 X 708	-1.96	14.01	-21.59	-0.0199
20110101-20111231	10.0	-10.0	-1.49	-7.64	39.24	-2.25(-0.142)	18.82	0.48	-7.8	-0.99	862 X 865	-44.25	-39.34	28.96	-0.0146
20120101-20121231	10.0	-10.0	-1.73	-8.88	39.43	-3.03(-0.192)	20.49	0.39	-9.0	-1.44	1043 X 1015	-6.48	3.25	-11.27	-0.0189
20130101-20131231	10.0	-10.0	-1.74	-9.12	38.74	-2.73(-0.173)	17.63	0.42	-9.42	-1.33	1177 X 1130	13.62	19.03	-31.86	-0.0158
20140101-20141231	10.0	-10.0	0.23	1.18	38.17	0.33(0.021)	8.14	0.5	1.24	0.06	1160 X 1092	34.98	35.54	-32.6	-0.0011
20150101-20151231	9.99	-9.89	-5.01	-25.91	40.76	-4.47(-0.283)	50.98	0.39	-25.36	-3.57	1158 X 1054	35.4	46.78	-87.69	-0.025
20160101-20161231	9.99	-9.98	-1.69	-8.66	38.81	-2.72(-0.172)	19.06	0.41	-8.92	-1.29	1293 X 1266	-24.74	-15.42	7.44	-0.0135
20170101-20171231	10.0	-9.99	0.02	0.09	36.39	0.03(0.002)	5.36	0.5	0.09	0.0	1513 X 1467	-20.56	0.88	20.74	-0.0031
20180101-20181231	9.99	-9.95	-1.07	-5.5	37.49	-1.88(-0.119)	11.01	0.44	-5.88	-0.72	1692 X 1632	-50.61	-38.75	39.76	-0.0103
20190101-20191231	9.99	-10.0	-2.94	-15.05	38.56	-5.74(-0.363)	29.82	0.36	-15.61	-3.59	1808 X 1768	3.81	26.71	-33.89	-0.0236
20200101-20200331	9.99	-10.0	-0.12	-2.67	38.21	-0.6(-0.038)	6.46	0.52	-2.81	-0.16	1854 X 1809	-19.27	-12.47	13.89	-0.0071
20100104-20200331	10.0	-9.98	-17.82	-8.97	38.83	-2.43(-0.153)	180.41	0.43	-9.23	-1.17	1259 X 1214	-6.4	4.85	-11.52	-0.0144

Figure 15: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
-0.7401	8.53	9.11	5.9	7.3	164	212322_ld3_19
-0.7431	3.23	6.06	2.74	1.54	100	214818_pv_model_2_gen2_191114_46
-0.8372	2.19	5.58	2.46	1.17	175	211930_h_ori251

Figure 16: 相关性结果

9 Alpha129

$$Alpha = SUM((CLOSE - DELAY(CLOSE, 1) < 0 ? ABS(CLOSE - DELAY(CLOSE, 1)) : 0), 12) \quad (9)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.0	-10.0	-1.63	-8.4	9.67	-1.23(-0.078)	19.09	0.38	-34.72	-1.15	539 X 1259	5.04	14.01	-21.83	-0.0028
20110101-20111231	10.0	-10.0	-0.04	-0.2	9.41	-0.04(-0.003)	10.43	0.5	-0.84	-0.01	643 X 1488	-36.4	-39.34	36.0	0.0001
20120101-20121231	10.0	-10.0	0.07	0.33	9.07	0.07(0.004)	14.66	0.47	1.49	0.01	662 X 1703	4.84	3.25	-4.17	-0.0004
20130101-20131231	10.0	-10.0	-0.43	-2.24	10.59	-0.4(-0.025)	11.19	0.46	-8.45	-0.18	623 X 1823	21.52	19.03	-25.99	-0.0009
20140101-20141231	10.0	-10.0	-1.13	-5.74	12.33	-0.95(-0.06)	14.64	0.42	-18.62	-0.65	833 X 1675	27.69	35.54	-39.17	-0.0017
20150101-20151231	9.98	-9.98	-1.17	-6.25	11.41	-0.53(-0.034)	37.11	0.48	-21.06	-0.39	869 X 1832	68.1	46.78	-80.01	0.0003
20160101-20161231	10.0	-9.99	-1.95	-10.0	9.82	-1.52(-0.096)	33.6	0.4	-40.68	-1.53	906 X 1958	-36.06	-15.42	16.11	-0.0018
20170101-20171231	10.0	-10.0	-1.45	-7.42	12.1	-1.34(-0.085)	17.03	0.44	-24.56	-1.05	898 X 2344	-35.82	0.88	20.97	-0.0018
20180101-20181231	9.98	-10.01	-1.55	-8.06	11.78	-1.54(-0.097)	25.84	0.47	-27.15	-1.27	871 X 2630	-53.22	-38.75	37.13	-0.0012
20190101-20191231	10.0	-10.0	-1.33	-6.82	12.51	-1.13(-0.072)	23.39	0.45	-21.72	-0.84	904 X 2710	14.35	26.71	-27.93	-0.0017
20200101-20200331	10.01	-10.0	-0.58	-12.46	11.63	-2.11(-0.134)	8.6	0.41	-42.66	-2.19	916 X 2770	-31.15	-12.47	6.38	-0.0028
20100104-20200331	10.0	-10.0	-11.17	-5.65	10.89	-0.86(-0.054)	117.27	0.45	-20.62	-0.62	779 X 1963	-2.72	4.85	-8.51	-0.0012

Figure 17: 回测结果

-0.2847	2.39	4.49	4.12	1.8	146	213024_agen.ZSAlpha_26
-0.2981	2.34	3.86	3.81	1.64	146	213024_agen.ZSAlpha_25
-0.3203	3.71	5.91	3.13	2.41	146	213024_agen.ZSAlpha_14

Figure 18: 相关性结果

10 Alpha130

$$Alpha = (RANK(DECAYLINEAR(CORR(((HIGH + LOW)/2), MEAN(VOLUME, 40), 9), 10)) / RANK(DECAYLINEAR(CORR(RANK(VWAP), RANK(VOLUME), 7), 3))) \quad (10)$$

dates	long(M)	short(M)	pnl(M)	%ret	%tvr	shrp (IR)	%dd	%win	bpmrgn	fitness	Coverage	%posret	%inxret	%negret	IC
20100104-20101231	10.01	-10.0	2.26	11.59	49.69	2.2(0.139)	6.88	0.52	9.38	1.06	353 X 1347	37.55	14.01	-14.27	0.0041
20110101-20111231	10.0	-10.0	1.24	6.34	51.29	1.61(0.102)	5.08	0.5	4.95	0.56	403 X 1643	-24.13	-39.34	36.81	0.002
20120101-20121231	10.0	-10.0	1.88	9.65	49.75	2.39(0.151)	4.48	0.57	7.76	1.05	445 X 1881	22.23	3.25	-2.92	0.0041
20130101-20131231	9.99	-10.0	1.09	5.75	49.31	1.16(0.073)	15.24	0.52	4.65	0.4	478 X 1965	38.59	19.03	-27.09	0.0023
20140101-20141231	10.0	-10.0	1.56	7.94	51.38	2.1(0.133)	3.96	0.58	6.18	0.83	507 X 1984	50.61	35.54	-34.73	0.0036
20150101-20151231	9.97	-10.0	0.61	3.3	51.99	0.43(0.027)	28.71	0.45	2.43	0.11	523 X 2143	81.25	46.78	-74.72	0.0008
20160101-20161231	10.0	-10.0	1.59	8.06	52.56	1.58(0.1)	7.22	0.49	6.21	0.62	553 X 2282	3.29	-15.42	13.02	0.0027
20170101-20171231	10.0	-10.0	0.7	3.48	52.48	0.66(0.042)	13.81	0.51	2.71	0.17	602 X 2569	-14.65	0.88	21.77	0.0016
20180101-20181231	10.04	-10.0	-2.28	-11.19	51.77	-1.82(-0.115)	35.61	0.44	-9.03	-0.85	665 X 2825	-62.79	-38.75	39.58	-0.0005
20190101-20191231	10.0	-10.0	-0.13	-0.47	50.59	-0.07(-0.005)	18.67	0.45	-0.53	-0.01	667 X 2928	18.83	26.71	-20.16	-0.0005
20200101-20200331	9.99	-10.0	-0.5	-10.89	48.31	-1.84(-0.117)	7.73	0.4	-9.01	-0.88	712 X 2954	-33.98	-12.47	12.19	-0.0027
20100104-20200331	10.0	-10.0	8.01	4.08	51.02	0.76(0.048)	41.83	0.5	3.15	0.21	524 X 2176	13.86	4.85	-5.81	0.0017

Figure 19: 回测结果

Corr	ISSharpe	SemiOS	OSSharpe	Fitness	OSdays	ID
0.2962	5.95	6.85	3.57	5.6	146	213024_agen.ZSAlpha_46
0.2779	3.69	3.54	3.39	4.39	175	211919_my_167
0.2743	2.97	6.04	2.03	1.94	100	214858_pv_model_6_gen6_191114_188

Figure 20: 相关性结果