

	累计确诊	累计治愈	累计死亡	新增确诊	新增感染 $\Delta I$	新增治愈 $\Delta R$	新增死亡 $\Delta D$	I	E	$\Delta E$	$\gamma$	$\alpha$	求解 $\gamma$	x1	x2	I+5E	求解/(I+5E) ( $\beta$ )
2020/1/10	41	2	1					38	0			0.142857			38	0	38
2020/1/11	41	6	1	0	-4	4	0	34	0	0	0.105263	0.142857		0	34	0	34
2020/1/12	41	7	1	0	-1	1	0	33	0	0	0.029412	0.142857		0	33	0	33
2020/1/13	41	7	1	0	0	0	0	33	0	0	0	0.142857		0	33	0	33
2020/1/14	41	7	1	0	0	0	0	33	0	0	0	0.142857		0	33	0	33
2020/1/15	41	12	2	0	-6	5	1	27	28	28	0.151515	0.142857		28	27	28	167 0.1676647
2020/1/16	45	15	2	4	1	3	0	28	119	91	0.111111	0.142857		95	28	119	623 0.152488
2020/1/17	62	19	2	17	13	4	0	41	413	294	0.142857	0.142857		311	41	413	2106 0.1476733
2020/1/18	121	25	3	59	52	6	1	93	539	126	0.146341	0.142857		185	93	539	2788 0.0663558
2020/1/19	198	25	3	77	77	0	0	170	504	-35	0	0.142857		42	170	504	2690 0.0156134
2020/1/20	270	25	6	72	69	0	3	239	735	231	0	0.142857		303	239	735	3914 0.0774144
2020/1/21	375	28	9	105	99	3	3	338	483	-252	0.012552	0.142857		-147	338	483	2753 -0.053396
2020/1/22	444	28	17	69	61	0	8	399	735	252	0	0.142857		321	399	735	4074 0.0787923
2020/1/23	549	31	24	105	95	3	7	494	1260	525	0.007519	0.142857		630	494	1260	6794 0.0927289
2020/1/24	729	32	39	180	164	1	15	658	2261	1001	0.002024	0.142857		1181	658	2261	11963 0.0987211
2020/1/25	1052	42	52	323	300	10	13	958			0.015198	0.142857			958		
假设E日接触人数是I的五倍												0.048253					
日期	r1*k平均值	传染率k	r1	r2	<div> 累计确诊数  累计治愈人数  累计死亡人数  I (感染者)  E (潜伏者)  alpha (日均转化率)  beta(日均传染比例)  gamma(日均治愈比例) </div>												
15-17	0.155941982	0.05249	2.970889	14.854447													
18, 20, 22-24	0.082802499	0.05249	1.577491	7.8874547													

蓝色为异常值  
橙色为重要计算结果

y: 11--24

## SUMMARY OUTPUT

回归统计	
Multiple	0.852717
R Square	0.727127
Adjusted	0.621054
标准误差	221.1433
观测值	14

## 方差分析

	df	SS	MS	F	Significance F
回归分析	2	1563787	781893.4	15.98822	0.000556
残差	12	586852.1	48904.34		
总计	14	2150639			

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.287051	0.820697	1.568241	0.142804	-0.50109	3.075196	-0.50109	3.075196
X Variable 2	0.130232	0.339443	0.383663	0.707939	-0.60935	0.869813	-0.60935	0.869813

## RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
1	48.90793	-48.9079	-0.23888
2	43.75973	-43.7597	-0.21373
3	42.47268	-42.4727	-0.20745
4	42.47268	-42.4727	-0.20745
5	42.47268	-14.4727	-0.07069
6	38.39686	56.60314	0.276465
7	51.53498	259.465	1.267297
8	106.5547	78.4453	0.383148
9	189.8905	-147.891	-0.72234
10	284.4353	18.56466	0.090675
11	403.3253	-550.325	-2.68794
12	497.925	-176.925	-0.86415
13	609.2535	20.74653	0.101332
14	799.8949	381.1051	1.86142

15--24

## SUMMARY OUTPUT

回归统计	
Multiple	0.855024
R Square	0.731066
Adjusted	0.572449
标准误差	268.8819
观测值	10

## 方差分析

	df	SS	MS	F	gnificance F
回归分析	2	1572259	786129.6	10.87354	0.007125
残差	8	578379.8	72297.48		
总计	10	2150639			

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	下限 95.0%	上限 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.377712	1.03241	1.334463	0.218785	-1.00303	3.758454	-1.00303	3.758454
X Variable 1	0.094993	0.425362	0.223323	0.828881	-0.88589	1.07588	-0.88589	1.07588

RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
1	45.46451	-17.4645	-0.07262
2	39.85804	55.14196	0.229285
3	49.88013	261.1199	1.085759
4	95.71837	89.28163	0.371241
5	179.3285	-137.329	-0.57102
6	282.0876	20.91236	0.086955
7	399.0932	-546.093	-2.2707
8	511.5485	-190.548	-0.79232
9	619.5272	10.47281	0.043547
10	800.2813	380.7187	1.583061

15--19

SUMMARY OUTPUT

回归统计	
Multiple R	0.557034
R Square	0.310287
Adjusted R Square	-0.25295
标准误差	181.0131
观测值	5

方差分析

	df	SS	MS	F	gnificance F
回归分析	2	44221.75	22110.87	0.674817	0.59708
残差	3	98297.25	32765.75		
总计	5	142519			

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	下限 95.0%	上限 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.286267	3.775823	0.340659	0.755821	-10.7301	13.30262	-10.7301	13.30262
X Variable 1	0.099145	0.622336	0.159312	0.883545	-1.88141	2.079697	-1.88141	2.079697

RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
-----	------	----	------

1	42.4468	-14.4468	-0.10304
2	37.50527	57.49473	0.410055
3	47.81377	263.1862	1.877057
4	93.684	91.316	0.65127
5	173.0622	-131.062	-0.93474

20--24

SUMMARY OUTPUT

回归统计	
Multiple	0.872341
R Square	0.760979
Adjusted	0.347972
标准误差	399.9926
观测值	5

方差分析

	df	SS	MS	F	gnificance F
回归分析	2	1528138	764068.8	4.775606	0.173142
残差	3	479982.3	159994.1		
总计	5	2008120			

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	1.347376	2.163563	0.622758	0.577573	-5.53805	8.2328	-5.53805	8.2328
X Variable 2	0.109314	0.946204	0.11553	0.915325	-2.90193	3.120558	-2.90193	3.120558

RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
1	284.1485	18.85151	0.060844
2	402.3691	-549.369	-1.77311
3	508.2121	-187.212	-0.60424
4	617.9493	12.05067	0.038894
5	803.3402	377.6598	1.218914

22--24

SUMMARY OUTPUT

回归统计	
Multiple	0.999752
R Square	0.999504
Adjusted	-0.00099
标准误差	30.64745
观测值	3

方差分析

	df	SS	MS	F	gnificance F
回归分析	2	1893763	946881.4	1008.108	#NUM!

残差	1	939.2661	939.2661
总计	3	1894702	

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	下限 95.0%	上限 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	-0.78462	0.196085	-4.00145	0.155904	-3.27612	1.706868	-3.27612	1.706868
X Variable 2	1.250566	0.091798	13.62305	0.046647	0.084165	2.416968	0.084165	2.416968

#### RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
1	338.8208	-17.8208	-1.00715
2	606.1014	23.89856	1.350635
3	1188.11	-7.10954	-0.4018

15--18

#### SUMMARY OUTPUT

回归统计	
Multiple R	0.824754
R Square	0.680219
Adjusted R Square	0.020329
标准误差	150.0179
观测值	4

#### 方差分析

	df	SS	MS	F	Significance F
回归分析	2	95744.25	47872.13	2.127142	0.436258
残差	2	45010.75	22505.37		
总计	4	140755			

	Coefficient	标准误差	t Stat	P-value	Lower 95%	Upper 95%	下限 95.0%	上限 95.0%
Intercept	0	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
X Variable 1	3.487204	3.440684	1.013521	0.417481	-11.3169	18.29127	-11.3169	18.29127
X Variable 2	0.230546	0.522794	0.440988	0.702312	-2.01885	2.479946	-2.01885	2.479946

#### RESIDUAL OUTPUT

观测值	预测 Y	残差	标准残差
1	115.0777	-87.0777	-0.82088
2	100.6098	-5.6098	-0.05288
3	125.0767	185.9233	1.752693
4	238.1908	-53.1908	-0.50143

湖北2020

15--18	150.0179	3.487204	18	0.193734
		<u>0.230546</u>	18	0.012808
22--24	30.64745	-0.78462	3	-0.26154
		<u>1.250566</u>	12	0.104214
11--24	221.1433	1.287051	15	0.085803
		<u>0.130232</u>	15	0.008682

	新增本土确诊	新增本土无症状感染者	新增治愈(△R)	新增死亡	累计确诊(包括境外)	累计治愈	累计死亡	本土I	本土I含L	y	△I	E	α	△E	求解y	I+5E	求解/(I+5E)/0.309742 (beta)
2022/3/3	61	56	84	0	110258	102318	4636	1189.44	1245.44			209.24223	0.9			2291.6512	
2022/3/4	102	73	120	0	110539	102438	4636	1257.758007	1330.758007	0.100887813	68.318007	898.37763	0.9	689.1354	877.4534	5822.6461	1.236162
2022/3/5	175	127	103	0	110868	102541	4636	1963.297872	2090.297872	0.081891747	705.53987	809.74039	0.9	-88.6372	719.9026	6138.9998	0.399166
2022/3/6	214	312	181	0	111195	102722	4636	2511.06422	2823.06422	0.092191818	547.76635	-243.5756	0.9	-1053.32	-324.55	1605.1861	-0.17068
2022/3/7	175	330	110	0	111520	102832	4636	2181.846154	2511.846154	0.043806128	-329.2181	1009.4917	0.9	1253.067	1033.849	7559.3049	2.07937
2022/3/8	233	322	181	0	111857	103013	4636	2909.388724	3231.388724	0.08295727	727.54257	807.2196	0.9	-202.272	706.2704	7267.4867	0.30164
2022/3/9	402	435	126	0	112385	103139	4636	3509.886364	3944.886364	0.043308066	600.49764	249.84198	0.9	-557.378	169.12	5194.0963	0.07513
2022/3/10	397	703	141	0	112940	103280	4636	3593.744144	4296.744144	0.040172241	83.857781	1086.7393	0.9	836.8973	1061.755	9730.4407	0.659955
2022/3/11	476	1048	151	0	113528	103431	4636	4420.809524	5468.809524	0.04201746	827.06538						

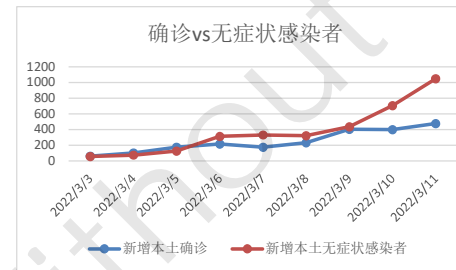
0.042325974  
0.089482162  
0.065904068

本土确诊比例

新增本土确诊数  
新增本土无症状感染者  
新增治愈人数  
新增死亡人数  
I (感染者)  
E (潜伏者)  
alpha (日均转化率)  
beta(日均传染比例)

假设: ①无症 状态感染经核 酸检测出来 后 ②治愈病例不 包括无症状感 染者③转化率 α 包括原始α和核 酸检测率θ	新增本土确 总新增确诊	新增境外 0.36
102	281	179 0.362989
175	329	154 0.531915
214	327	113 0.654434
175	325	150 0.538462
233	337	104 0.691395
402	528	126 0.761364
397	555	158 0.715315
476	588	112 0.809524

日期	r1*k平均值	传染率k	r1	r2
4, 5, 7, 8, 10	0.9352586	0.2536	3.687928	18.43964



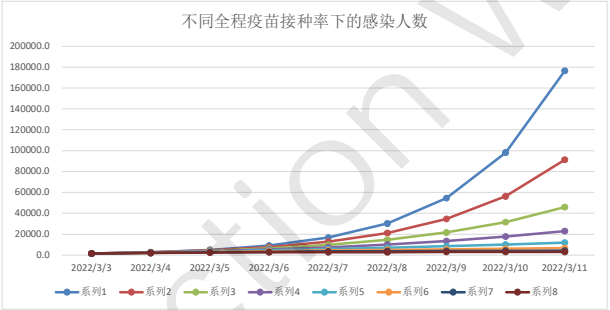
已知：  
本土I含L E r1\*k 疫苗有效率  
2022/3/3 1245.44 209,24223 0.9352 0.7984

一 疫苗接种率

公式：新增病例(包含治愈和无症状)=(1-0.7934\*接种率)\*r1\*k\*(It-1 + 5\*Et-1)

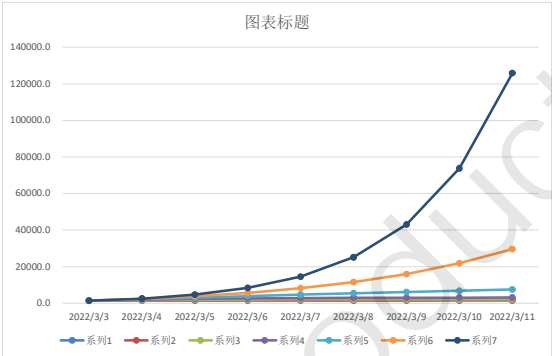
接种率	E	I	总	实际	差	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总
2022/3/3	209.2	1245.4	1454.7	1370.7	84.0	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7
2022/3/4	475.5	188.3	2118.5	2109.1	9.4	934.6	188.3	2577.6	849.6	188.3	2492.6	764.6	188.3	2407.6	679.6	188.3	2322.6	594.5	188.3	2237.5	509.5	188.3	2152.5	424.5	188.3	2067.5	339.5	188.3	1982.5
2022/3/5	315.3	428.0	2861.8	2797.0	64.7	1541.0	841.1	4959.7	1244.6	764.6	4501.8	979.8	688.1	4075.4	746.5	611.6	3680.6	544.7	535.1	3317.4	374.5	458.6	2985.6	235.9	382.0	2685.4	128.8	305.5	2416.8
2022/3/6	296.9	283.8	3442.4	2398.5	1043.9	2800.7	1386.9	9147.3	2044.6	1120.1	7666.5	1441.3	881.8	6398.5	973.3	671.8	5325.7	623.0	490.3	4430.6	372.8	337.1	3695.5	205.3	212.3	3103.0	102.8	115.9	2635.4
2022/3/7	245.0	267.2	3954.5	3411.3	543.2	5020.8	2520.6	16688.7	3297.3	1840.1	12803.9	2066.0	1297.2	9761.7	1221.4	876.0	7423.1	670.9	560.7	5662.1	334.7	335.5	4365.8	146.5	184.7	3434.2	52.5	92.5	2780.5
2022/3/8	211.7	220.5	4386.8	3857.6	529.1	9017.5	4518.7	30224.9	5332.6	2967.5	21104.1	2975.3	1859.4	14596.5	1545.3	1099.3	10067.7	733.6	603.8	6999.5	310.6	301.3	4977.6	113.4	131.8	3679.4	34.5	47.3	2862.3
2022/3/9	180.0	190.6	4757.3	4068.7	688.6	16191.7	8115.8	54532.3	8620.6	4799.4	34524.1	4281.2	2677.8	21555.4	1951.6	1390.8	13410.1	799.1	660.3	8458.9	285.1	279.5	5542.2	84.8	102.1	3866.3	19.6	31.1	2912.9
2022/3/10	153.9	162.0	5073.1	5242.5	169.3	29074.4	14572.5	98179.2	13936.9	7758.6	56219.6	6161.1	3853.1	31569.6	2465.7	1756.5	17632.3	871.2	719.2	10049.3	262.6	256.6	6061.4	64.4	76.3	4007.1	12.1	17.6	2942.6
2022/3/11	131.3	138.5	5342.9	5317.8	25.1	52207.1	26167.0	176553.3	22531.3	12543.2	91294.1	8866.4	5545.0	45981.0	3115.0	2219.1	22966.4	949.7	784.1	11783.0	241.6	236.3	6539.3	48.5	57.9	4113.5	7.1	10.9	2960.6

实际与预测的差值：  
350.8180987



二 减少外出/积极相应封禁等措施

感染者日接触人数	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总	E	I	总
2022/3/3	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7
2022/3/4	0.0	188.3	1643.0	0.0	188.3	1643.0	171.3	188.3	1814.3	351.1	188.3	1994.1	530.9	188.3	2173.9	710.7	188.3	2353.7	890.6	188.3	2533.6	1170.4	188.3	2711.9	1458.7	188.3	2899.9	1929.0	188.3	3087.2
2022/3/5	1.5	0.0	1644.5	14.8	0.0	1657.8	9.8	154.2	1978.3	141.6	316.0	2451.7	414.4	477.8	3066.2	828.4	639.7	3821.8	1383.4	801.5	4718.5	2183.9	801.5	5015.4	2985.4	801.5	5316.9	3786.9	801.5	5618.4
2022/3/6	0.0	1.3	1645.8	0.0	13.3	1671.1	23.1	8.8	2010.1	113.6	127.4	2692.7	427.3	373.0	3866.6	1130.4	745.6	5697.7	2388.7	1245.1	8352.3	3633.8	1245.1	8352.3	4878.9	1245.1	8352.3	6124.0	1245.1	8352.3
2022/3/7	0.0	0.0	1645.8	1.0	0.0	1672.1	0.0	20.8	2030.9	61.5	102.2	2856.4	403.1	384.6	4654.3	1492.5	1017.3	8207.6	4059.2	2149.9	14561.4	6209.1	2149.9	14561.4	8419.0	2149.9	14561.4	10568.9	2149.9	14561.4
2022/3/8	0.0	0.0	1645.8	0.0	0.9	1673.1	3.3	0.0	2034.2	41.1	55.3	2952.8	390.5	362.8	5407.5	1983.6	1343.3	11534.4	6913.9	3653.3	25128.5	11527.2	3653.3	25128.5	15180.5	3653.3	25128.5	19833.8	3653.3	25128.5
2022/3/9	0.0	0.0	1645.8	0.1	0.0	1673.1	0.0	2.9	2037.1	24.4	37.0	3014.2	375.2	351.4	6134.2	2632.7	1785.2	15952.3	11772.1	6222.5	43123.1	17994.6	6222.5	43123.1	24217.1	6222.5	43123.1	30439.6	6222.5	43123.1
2022/3/10	0.0	0.0	1645.8	0.0	0.1	1673.2	0.5	0.0	2037.6	15.5	22.0	3051.6	361.4	337.7	6833.2	3495.3	2369.5	21817.0	20045.0	10594.9	73762.9	21090.0	10594.9	73762.9	27184.9	10594.9	73762.9	34279.9	10594.9	73762.9
2022/3/11	0.0	0.0	1645.8	0.0	0.0	1673.2	0.0	0.4	2038.0	9.5	13.9	3074.9	347.9	325.3	7506.4	4640.1	3145.7	29602.9	34131.6	18040.5	125935.1	27184.9	18040.5	125935.1	34279.9	18040.5	125935.1	42360.4	18040.5	125935.1





已知：  
本土I含L E r1\*k 疫苗有效率  
2022/3/3 1245.44 209.242 0.9352 0.7984

三 积极参加核酸检测

每日参加核酸	E I 总			E I 总			E I 总			E I 总			E I 总		
转换率	0.5 0.6			0.6 0.7			0.7 0.8			0.8 0.9			0.9 1		
2022/3/3	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7	209.2	1245.4	1454.7
2022/3/4	537.5	125.5	2117.8	516.6	146.5	2117.8	495.7	167.4	2117.8	474.8	188.3	2117.8	453.8	209.2	2117.8
2022/3/5	491.5	322.5	2931.8	428.2	361.6	2907.6	369.0	396.6	2883.4	314.1	427.3	2859.1	263.3	453.8	2834.9
2022/3/6	509.5	294.9	3736.2	424.4	299.7	3631.7	353.4	295.2	3532.0	295.4	282.7	3437.2	249.0	263.3	3347.2
2022/3/7	516.8	305.7	4558.6	403.6	297.1	4332.4	314.0	282.7	4128.7	243.3	265.8	3946.3	187.4	249.0	3783.5
2022/3/8	526.0	310.1	5394.7	387.4	282.5	5002.3	284.9	251.2	4664.8	209.9	219.0	4375.2	155.8	187.4	4126.7
2022/3/9	535.1	315.6	6245.4	371.0	271.2	5644.5	256.9	227.9	5149.7	178.1	188.9	4742.2	123.8	155.8	4406.3
2022/3/10	544.4	321.1	7110.9	355.5	259.7	6259.7	232.1	205.5	5587.3	152.1	160.3	5054.6	100.4	123.8	4630.5
2022/3/11	553.9	326.7	7991.5	340.6	248.9	6849.2	209.6	185.7	5982.6	129.5	136.9	5321.0	80.7	100.4	4811.5

