

H K E c a e a d C ea L pr ed a d T e S c E c a e f H K L pr ed a e
e b f ec e f a ce ,pr a e e e a a acc ac c pr eee
a de e d ca pr a ab a e e f a e e a f pr e a ce e
e a a f ec e f a ce .



福萊特玻璃集團股份有限公司

Flat Glass Group Co., Ltd.

(a joint stock company incorporated in the People's Republic of China with limited liability)
(Stock code: 6865)

THIRD QUARTERLY REPORT
FOR THE NINE MONTHS ENDED 30 SEPTEMBER 2021

T a ce re pr ade b e C pr a a R e 13.09 a d R e 13.10 B f e R e G e
eL f Sec e T e S c E c a e f H K L pr ed a d e I de I f pr a P
de Pa XIVA f e Sec e a d F e O d a ce (C a e 571, La f H K).

P a e e a f e C a Sec e Re a C pr (e CSRC), Fa Ga G
C ., L d(e Company , e e b da e, c ec e efe ed a e Group) e ed
b a a e e f eac w f ef ad d a e .T a e e a e a e a ed
acc da ce e e a e e re ea f pr a d c e f a e e f ed
c pr a e w ed b e CSRC .

A f a c a f pr a e a e a d ed a d e a ed acc da ce e
e ed C e e Acc S a d a d f B e E e e .

T e a d c pr ee f e C pr a a e e ed e a d ed e f e G f e d a e

1. IMPORTANT NOTICE

- 1.1 T e b a d f d ec , e e c C P r ee, d ec , e a d e P r a a e feC P r a a a a e f P a c a ed e a e e ae, acc ae a d c P r ee, a d e e a e fa e a e , P r ead e e e a P r a e a P r , a da ej a d e e a e bef e ab e f e C P r a .
- 1.2 R a H a (e a e e e a e f e C P r a), Ja We j e (e - -c a e f acc affa) a d J H (e - -c a e f e acc de a P r e) a a e f e , acc ac a d c P r e e e f ec e f a e e .
- 1.3 T e d a e e f e C P r a a d ed.

2. KEY FINANCIALS

2.1 Major financial statements items and financial indicators

U : RMB

Items	For the three months from 1 July 2021 to 30 September 2021	Increase/ decrease compared to the end of last year (%)	For the nine months ended 30 September 2021	Increase/ decrease compared to the end of last year (%)
Re e e	2,309,245,108.81	51.89	6,337,267,597.37	57.78
Ne f a b ab e e e f e C P r a	455,822,031.12	29.89	1,716,852,020.15	111.50
Ne f a b ab e e e f e C P r a e c d - ec eP	445,675,901.34	30.79	1,682,985,970.81	112.19
Ne ca f / (f) f P e a ac e	N	N	-900,428,944.93	-153.32
Ba cea e a e (RMB)	0.21	16.67	0.80	90.48
D ed ea e a e (RMB)	0.21	16.67	0.80	90.48
We eda e a e e (%)	4.09	2.4 e ce a e	16.07	0.42 e ce a e

	As at 30 September 2021	As at 31 December 2020	Increase/decrease compared to the end of last year (%)
Tangible assets	18,000,510,159.02	12,265,800,375.02	46.75

2.3 Changes in major financial statements item and financial indicators and reason thereof

✓A cab e N A cab e

Items	Increase/ decrease (%)	Main reasons for the changes
O ea e e e f e e e d	51.89	Ma de e ea - - ea ce ae ae pre f PV a
O ea e e e f be f e ea e ed f e e e d	57.78	Ma de e ea - - ea ce ae ae ae ce ad pre f PV a
Ne f a b abe ae f be e ed f ee	111.50	Ma de e ea - - ea ce ae f f a f eC f a ad dece ae e e e f e e d
Ne f a b abe e a e afe ded c - ea er f be f e ea e ed f e e e d	112.19	Ma de e ea - - ea ce ae f f a f eC f a ad dece ae e e e f e e d
Ne ca f f be ac e f be ea e ed f ee e d	-153.32	Ma de e ea - - ea dec ea e ca f f ea ac e ad e ce ae ca f f ea ac e
Ba cea e a e f be f e ea e ed f e e e d	90.48	Ma de e ceae e f a b abe e f eC f a
D ed ea e a e f be f e ea e ed f e e e d	90.48	Ma de e ceae e f a b abe e f eC f a
T a a e a a e ed f e e e d	46.75	Ma de - b c ace f A a e a d e ceae e pre fe jec , e e ceae c e a e ad -c e a e
E a b abe e f e ae a a e ed f e e e d	57.47	Ma de ec e f A a e c e b e b d , - b c a ce f A a e a d e ce ae d b ed f

3. SHAREHOLDERS' INFORMATION

3.1 Total number of ordinary shareholders and preferred shareholders with voting rights resumed and shareholding of the top ten shareholders

U : a e

Total number of ordinary shareholders at end of the reporting period (shareholder)	78,079	Total number of preferred shareholders with voting rights resumed at end of the reporting period (if any)	0
--	--------	---	---

Name of shareholders	Nature of shareholders	Shareholding of top ten shareholders			Pledge, mark or locked-up Status	Number
		Shareholding as at the period end	Percentage (%)	Restricted shareholding		
HKSCC Nt ee Ld	Oe	449,955,880	20.96	0	U	
香港中央結算(代理人)有限公司	D Pre ca ae	439,358,400	20.46	439,358,400	N	0
R a H a	D Pre ca ae	350,532,000	16.33	350,532,000	N	0
R a Ze	D Pre ca ae	324,081,600	15.10	324,081,600	N	0
J a J a	D Pre ca ae	46,801,800	2.18	0	N	0
Z e We	D Pre ca ae	31,201,200	1.45	0	Ped e	13,500,000
Z Q a	D Pre ca ae	31,201,200	1.45	0	N	0
S e F a	D Pre ca ae	31,201,200	1.45	0	N	0
S a a P d De e Pre						
Ba C., Ld. GFH -ed						
Ma fac S c - e						
I a Sec e						
I e Pre F d	Oe	21,407,991	1.00	0	N	0
HKSCC Nt ee Ld	Oe	18,714,844	0.87	0	N	0
I d a a d C Pre ca						
Ba fC a Ld						
GFI a U ade						
F e b e A ca H b d						
Sec e I e Pre F d	Oe	16,031,883	0.75	0	N	0

Shareholdings of top ten unrestricted shareholders

Name of shareholders	Number of unrestricted shares held	Class of shares and number	
		Class	Number
HKSCC Nt ee Ltr ed 香港中央結算(代理人)有限公司	449,955,880	O e ea ed f e ae	449,955,880
Z e We	46,801,800	d a ae d a ae	46,801,800
Z Q a tr	31,201,200	d a ae d a ae	31,201,200
S e F a	31,201,200	d a ae d a ae	31,201,200
S a a P d De e re Ba C ., L d. GFH -e d Ma fac S c - e I a Sec e I e re F d	21,407,991	d a ae d a ae	21,407,991
HKSCC Nt ee Ltr ed 香港中央結算有限公司	18,714,844	d a ae d a ae	18,714,844
I d a a d C tr re ca Ba f C a Ltr ed GFI a U ade Fe be A ca H b d Sec e I e re F d	16,031,883	d a ae d a ae	16,031,883
We Yes	15,600,600	d a ae d a ae	15,600,600
I d a Ba C ., L d. GFX c e H b d Sec e I e re F d	10,759,018	d a ae d a ae	10,759,018
S e Q f	10,400,400	d a ae d a ae	10,400,400
We Z tr	10,400,400	d a ae d a ae	10,400,400
De a e a e e a ed e a f e Ab e a e de e a e ac c ce	M . R a H a , M . J a J a , M . R a Ze a d M . Z a X a fe a e a e ac c ce . M . Z a X a fe ed 4,800,000 A a e . 485,000 H S a e e d b M . R a H a , 111,000 H S a e e d b J a J a a d 360,000 H S a e e d b M . R a Ze a e bee ca c a ed HKSCC Nt ee Ltr ed.	N	
E a a e a e de a d e a e de bjec e c a e a c a tr a fac ad ec e e d a d ef a c b e e (fa)			

*N e 1: HKSCC N
a e f e C*

*N e 2: T e a e de H K Sec e Cea C
a e de f e S a a S c C ec.*

*N e 3: T e a e d ed e e a e aced f
2021.*

*N e 4: A e S a e c d be ed a de ec e f
a e d f e S a e de a e ea e a e fa e S a e ad ee ed d a ec e
acc a d ced ec e acc .*

4. OTHER REMINDERS

O e fca f tra eed er d e ab b e c d d e e d

✓A cab e N A cab e

4.1 Update on issuance of new H shares

O 5 Feb a 2021, eC tra a a ced e e 76,000,000 e H a e ,
c a bee a ed b eb a d. T e ca f ee H a e ed be ed a
e e :() a tra e 3.5% f e a ed a e ca a feC tra a a ed a e
f e b a dree ;() a tra e 3.4% f e a ed a e ca a feC tra
e a ed b a ce;() a tra e 16.9% f e a edH a e feC tra
a a ed a e f e b a dree ;ad() a tra e 14.4% f e a edH a e
feC tra e a ed b a ce. T a ce a bee c de ed a d a ed a
e 2021 f e a d a e e a dree , e 2021 f A a e ca dree a d e 2021
f H a e ca dree feC tra ed 25 Ma c 2021. I a bee e ed e
CSRC 25 Ma c 2021 a d a bee a ed b CSRC J e 2021. A f ed a e f
a e e , e a ce f e H a e a bee c fe ed.

4.2 Update on issuance of A share convertible bonds

O 16 J e 2021, eC tra a a ced e a e A a e c e b e b d e
PRC f a a a f fe a RMB4,000 (e A Share Convertible Bonds)
c a e c e b e e A a e f eC tra . T a ce a bee c de ed
a d a ed a e 2021 ec de a d a e e a dree , e 2021 ec d A a e ca
dree a d e 2021 ec d H a e ca dree feC tra ed 20 A 2021.
T a ce be fe ed e e a d a a b e CSRC.

4.3 Listing of non-public of issuance of A shares

U ece f ee a a f e - b c ace f ae f eC r a (Z e Ja X Ke [2020] N . 2648)* (證監許可[2020]2648號文《關於核准福萊特玻璃集團股份有限公司非公開發行股票的批覆》) f r eCSRC, eC r a c r e ed e - b c ace f RMB-de r aed a e , a c a a f 84,545,147 A ae ee ed a a f 18 a fed e . T e c - r e d f ee ae de e w ace r . W ee f e c - e d, a a f 84,545,147 e ced a e because adab e 19 J 2021. Pea e efe ea ce re e b f ad f e ced A ae de e - b c ace b ed e eb e f e S a a S c E c a e 13 J 2021 (a ce re N . 2021 076) f de a .

4.4 Reserved grant of restricted A shares to participants under the restricted A share incentive scheme

O 25 Ma 2021, eC r a a ced e e e ed a f 700,000 e ced A ae ee a c a a a ce f RMB14.23 e a e. A a 25 J e 2021, eC r a ece ed a a f RMB9,961,000 ca f r ee a c a f b c f 700,000 a e f RMB-de r aed d a a e. T e ced e f e a a d c d a C a Sec e De a dC ea C a L r edS a a B a c f e add a e ced A ae f eC r a ed de e e e ed a f e e ced A ae ce e c e re eec r e ed 20 J 2021. T e a r be f ed a e ce a ed f r 2,146,193,254 2,146,893,254.

4.5 Major PV glass sales contract

T eC r a a dJA a E e Tec C .,L d*(晶澳太陽能科技股份有限公司)e e ed a a e c ac 30 J 2021 f e a da e fa a eae fa r ae 230,000,000 a e r ee f ac ed a (f a r d e) f r 1 A 2021 31 J 2024. Ta c de a e r ae e e a aef ed be a r d e, a db aed e a e a e ce f 3.2 r r PV a a RMB22 e a e r ee (c d a) a d e a e a e ce f 2.0 r r PV a a RMB18 e a e r ee (c d a) a b ed b S b r eC a I f r a C .,L d.* (卓創週報) da ed 29 J 2021 ee e , e b a de r aed a e a c ac a r be a r ae RMB4,618 b (c d a).

4.6 Unlocking of the part of shares first granted under the restricted A share incentive scheme for 2020

O 9A 2021, e b a d c de ed a da ed, a f e , e e a f
f c d c e a f e cedA a e f a edd ef c
e d de e e cedA a e ce e c e ref 2020. A a f 15 a c a a fed
ec d c e a f e cedA a e f a edd ef c
e d, a a be f 920,000 e cedA a e c ed, e e e 0.0429% f
e a aeca a f eC a a edae f eb adree .

4.7 A share option incentive scheme

O 9A 2021, eC a a ced e a be a A ae ce e
ce re(e Scheme). Pa c a f eSc reae e ddeade a a e
ec ca e e f eC a a a edae f ea ce f edaf Sc re. Te
ce f e de ae f eSc re a beA ae f eC a bed ec
ed e a c a .Te be f ae ed be a ed de eSc re
5,947,858, e ee a a ae 0.28% f e a ed aeca a f 2,146,893,254
Sae f eC a a a edae fa ce f edaf Sc re, ait c , e
f a f ae c f 5,353,072 ae, e ee a a ae 0.25% f e
a ed aeca a f 2,146,893,254 ae f eC a a a edae fa ce
f edaf Sc re a d 90% f e a be f ae de e a ; e ee ed
a e c f 594,786 ae, e ee a a ae 0.03% f e a ed
aeca a f 2,146,893,254 ae f eC a a a edae fa ce f edaf
Sc re a d 10% f e a be f ae de e a .

I de e e a e c c e f eSc re be c a ce Re
19A.39C f eL Re ead ec d f a e e ec f eeece ce
f e ae de eSc re e Re 17.03(9) f eL Re, ebad
trade ce a adj be e eea ea eeece ce f e ae
de eSc re a d e e a edd c re 12 Oc be 2021.

5. QUARTERLY FINANCIAL STATEMENTS

5.1 Financial Statements

Consolidated Balance Sheet As at 30 September 2021

P e a ed b F a G a G C ., L d.

U : RMB T e f a d : a d ed

Items	As at 30 September 2021	As at 31 December 2020
Current assets:		
Ca a ba a d a d	1,976,302,875.34	1,589,967,013.69
T ad f a c a a e	400,000,000.00	400,000,000.00
De a ef a c a a e	14,471.85	1,445,666.57
N e ece ab e	856,599,853.70	546,772,640.17
Rece ab e	1,171,098,807.55	1,388,373,649.20
F a c ece ab e	589,635,590.11	684,530,748.37
Ad a ce a re	1,201,187,296.81	363,154,384.40
O e ece ab e	57,350,495.91	24,267,677.88
I e e	1,285,404,344.39	479,395,186.67
O e c e a a e	193,574,347.31	91,369,716.90
T a c e a a e	7,731,168,082.97	5,569,276,683.85
Non-current assets:		
L - e re e e re	20,124,822.26	13,914,841.66
I e re e e re	53,003,442.50	53,970,165.00
I e re e e	19,160,098.63	20,233,701.43
F ed a e	5,412,360,912.12	3,333,698,217.15
C c e	2,433,006,429.51	1,937,151,385.42
R - f e a e	173,800,227.39	173,805,026.26
I a b e a e	532,558,879.76	529,570,040.37
L - e re e a d e e	5,496,339.77	5,175,651.56
Defe ed a a e	26,162,663.45	25,990,515.11
O e -c e a a e	1,593,668,260.66	603,014,147.21
T a -c e a a e	10,269,342,076.05	6,696,523,691.17
T a a e	18,000,510,159.02	12,265,800,375.02

Items	As at 30 September 2021	As at 31 December 2020
Current liabilities:		
S - e b	1,405,908,924.92	617,402,035.00
De a e f a c a ab e	313,435.17	
N e a ab e	1,105,045,673.62	713,571,260.89
Pa ab e	1,808,253,704.78	1,294,643,492.26
C ac ab e	219,687,567.58	91,178,042.21
Pa a ab e	46,231,756.87	48,938,953.78
Ta a ab e	135,539,646.58	303,432,110.05
O e a ab e	124,849,773.00	100,815,515.00
I c d : I e e a ab e	2,647,991.81	2,856,171.00
D de d a ab e	791,200.00	299,000.00
N -c e ab e d e e ea	291,843,000.00	160,819,952.95
T a c e ab e	5,137,673,482.52	3,330,801,362.14
Non-current liabilities:		
L - e b	1,381,979,930.21	1,375,011,882.07
B d a ab e	236,681,991.63	
Lea e ab	11,457,856.59	11,508,090.39
Defe ed c Pre	24,687,614.79	33,039,484.74
Defe ed c Pre a ab	52,197,175.72	44,014,924.20
T a -c e ab e	1,470,322,577.31	1,700,256,373.03
T a ab e	6,607,996,059.83	5,031,057,735.17
Owner's equity:		
S a e ca a	536,723,313.50	510,312,197.00
O e e Pre	49,401,670.49	
Ca a	4,822,146,544.86	2,045,095,156.05
Le : Tea c	32,096,200.00	28,359,000.00
O e c Pre e e c Pre	-14,781,201.12	-26,338,876.15
S eca e e e	15,337,048.80	14,369,931.38
S e e e e	220,705,199.31	220,705,199.31
U d b ed f	5,844,479,393.84	4,449,556,361.77
T a e a b ab e e f e a e	11,392,514,099.19	7,234,742,639.85
c Pre a		
T a a e ' e	11,392,514,099.19	7,234,742,639.85
T a ab e a d e ' e	18,000,510,159.02	12,265,800,375.02
Le a e e e a e: R a H a Pe c a e f acc f c : J a We je		
Pe c a e f acc de a Pre : J H		

Consolidated Income Statement
For the nine months ended 30 September 2021

P e a ed b F a G a G C ., L d.

U : RMB T e f a d : a d ed

Items	For the nine months ended 30 September 2021	For the nine months ended 30 September 2020
I. Total operating income	6,337,267,597.37	4,016,570,656.49
I c d : O e a e e e	6,337,267,597.37	4,016,570,656.49
II. Total operating costs	4,467,865,886.88	2,993,488,137.65
I c d : O e a c	3,669,934,838.78	2,415,647,590.73
Ta e a d c a e	30,340,609.54	27,425,216.43
Se e e e	304,386,539.12	212,773,321.26
Ge e a a d a d r a e	155,345,617.83	103,865,529.56
e e e		
Re e a c a d d e e	303,236,157.80	176,033,280.28
e e e		
F a c a e e e	4,622,123.81	57,743,199.39
I c d : I e e e e e	57,728,223.46	71,332,549.53
I e e c	36,210,850.21	11,107,420.04
Add: O e c	40,213,585.39	20,057,263.33
I e	25,236,719.77	7,784,124.02
I c d : e		
a c a e a d j e e	3,009,980.60	4,196,788.57
P f a f		
(a ed -)	-1,744,629.89	1,020,811.77
L c ed		
(a ed -)	20,451,405.33	-15,111,767.28
L a e		
(a ed -)	-12,371,307.56	-42,895,976.60
Ga d		
(a ed -)	3,349,838.44	-2,944,195.09
III. Operating profit (loss expressed with “-”)	1,944,537,321.97	990,992,778.99
Add: N - e a c	4,816,984.44	9,977,166.93
Le : N - e a e e e	1,140,211.48	3,650,465.84
IV. Total profit (total loss expressed with “-”)	1,948,214,094.93	997,319,480.08
Le : I c	231,362,074.78	185,586,171.93

Items		For the nine months ended	For the nine months ended
		30 September 2021	30 September 2020
V. Net profit (net loss expressed with “-”)		1,716,852,020.15	811,733,308.15
(I) C a f ed a c ce ba			
1. Ne f f c			
e a (e a ed)	▼	1,716,852,020.15	811,733,308.15
(II) C a f ed b a b f e			
1. Ne f a b ed			
a e de f a e c a			
(e e e ed -)	▼	1,716,852,020.15	811,733,308.15
VI. Other comprehensive income, net of tax		11,557,675.03	-9,356,951.37
(I) Ne a f e c e e e			
c a f e a a b a b e			
a e de f a e c a			
1. O e c e e e c e		11,557,675.03	-9,356,951.37
be e c a f ed f		-966,722.50	
(1) C a e fa a e f		-966,722.50	
e e c e	▼		
2. O e c e e e c e		12,524,397.53	-9,356,951.37
be e c a f ed f			
(1) C e d f f e c e f		11,684,218.40	-9,356,951.37
f e c e c a e	▼		
(2) O e		840,179.13	
VII. Total comprehensive income		1,728,409,695.18	802,376,356.78
(I) T a c e e e c a b e			
a e c a		1,728,409,695.18	802,376,356.78
VIII. Earnings per share			
Ba c ea e a e		0.80	0.42
D ed ea e a e		0.80	0.42
F e b e c b a de c c c effec ed e c e e d, e e f			
ec zed b e ed a bef e ec b a a RMB0, a d e e f ec zed			
b e ed a e e e d a RMB0. ▼			
Le a e e a e: R a H a Pe ca e fac f c : J a We je			
Pe c a e fac de a : J H			

Consolidated Statement of Cash Flow
For the nine months ended 30 September 2021

P e a ed b F a G a G C ., L d.

U : RMB T e f a d : a d ed

Items	For the nine months ended 30 September 2021	For the nine months ended 30 September 2020
I. Cash flow from operating activities:		
Ca ece ed f r a e f d e de f e ce	3,591,585,177.90	4,794,393,648.61
Ca ece ed f r ef d f a e	197,912,768.86	127,605,189.83
Ca ece ed e a e e a ac e	75,748,711.99	32,875,780.33
S b a fca f f r e a ac e	3,865,246,658.75	4,954,874,618.77
Ca adf d a d e ce	3,333,427,352.56	2,521,536,564.37
Ca ad a d be a f f r ee	314,813,682.34	215,925,151.28
Ca adf a r e f a e a d c a e	480,501,670.95	176,955,654.16
Ca ade a e e a ac e	636,932,897.83	351,872,047.17
S b a fca f f r e a ac e	4,765,675,603.68	3,266,289,416.98
Ne ca f f r e a ac e	-900,428,944.93	1,688,585,201.79
II. Cash flow from investing activities		
Ca ece f r d a f e r e	2,050,000,000.00	
Ca ece ed f r d a f e r e	23,273,837.86	1,399,400.00
Ne ca ece ed f r d a f f ed a e , a be a e a d e - e r e e r e	13,467,268.65	5,262,989.68
Ca ece ed e a e ac e	67,161,439.65	1,955,951,081.74
S b a fca f f r e a ac e	2,153,902,546.16	1,962,613,471.42
Ca ad c a e f e d a e , a be a e a d e - e r a e a r e	2,980,745,217.52	1,527,002,166.63
Ca ad e r e	2,050,000,000.00	67,917,500.00
Ca ade a e e a ac e	25,679,856.10	2,965,665,488.59
S b a fca f f r e a ac e	5,056,425,073.62	4,560,585,155.22
Ne ca f f r e a ac e	-2,902,522,527.46	-2,597,971,683.80

Items	For the nine months ended 30 September 2021	For the nine months ended 30 September 2020
III. Cash flow from financing activities:		
Ca ece ed f ∇ ca a c b	2,509,960,996.79	28,658,000.00
Ca ece ed f ∇ b	3,102,378,042.43	2,730,069,871.17
Ca ece ed f ∇ ed b d		1,444,025,000.00
Ca ece ed e a e f a c ac e	784,405,415.17	440,358,476.87
S b a f ca f ∇ f ∇ f a c ac e	6,396,744,454.39	4,643,111,348.04
Ca a d f a ∇ e f b	997,501,414.78	2,488,431,846.44
Ca a d f d b f d ∇ de d , a d f a ∇ e f e e	384,806,224.98	65,736,370.94
Ca a d e a e f a c ac e	1,164,450,702.67	475,599,542.68
S b a f ca f ∇ f ∇ f a c ac e	2,546,758,342.43	3,029,767,760.06
Ne ca f f ∇ f a c ac e	3,849,986,111.96	1,613,343,587.98
IV. Effect of foreign exchange rate changes on cash and cash equivalents	-4,099,811.18	-11,715,160.97
V. Net increase in cash and cash equivalents	42,934,828.39	692,241,945.00
Add: ca a d ca e a e a be f e d	1,146,171,930.13	479,068,091.59
VI. Cash and cash equivalents at end of period	1,189,106,758.52	1,171,310,036.59

Le a e e e a e: R a H a Pe c a e f acc f c : Ja We je
Pe c a e f acc de a ∇ e : J H

Ja , Z eja P ce, Pe e' Re b c f C a
20 Oc be 2021

A a e da e f a ce ∇ e , e e ec e d ec f e C ∇ a a e M . R a H a ,
M . Ja J a , M . We Yez a d M . S e Q f , a d e de e de -e ec e d ec f
e C ∇ a a e M . X Pa , M . H a F a a d M . N Ya K e Ca ∇ e .