

附录 A：不同坡体结构类型下岩质边坡最大塑性剪应变云图

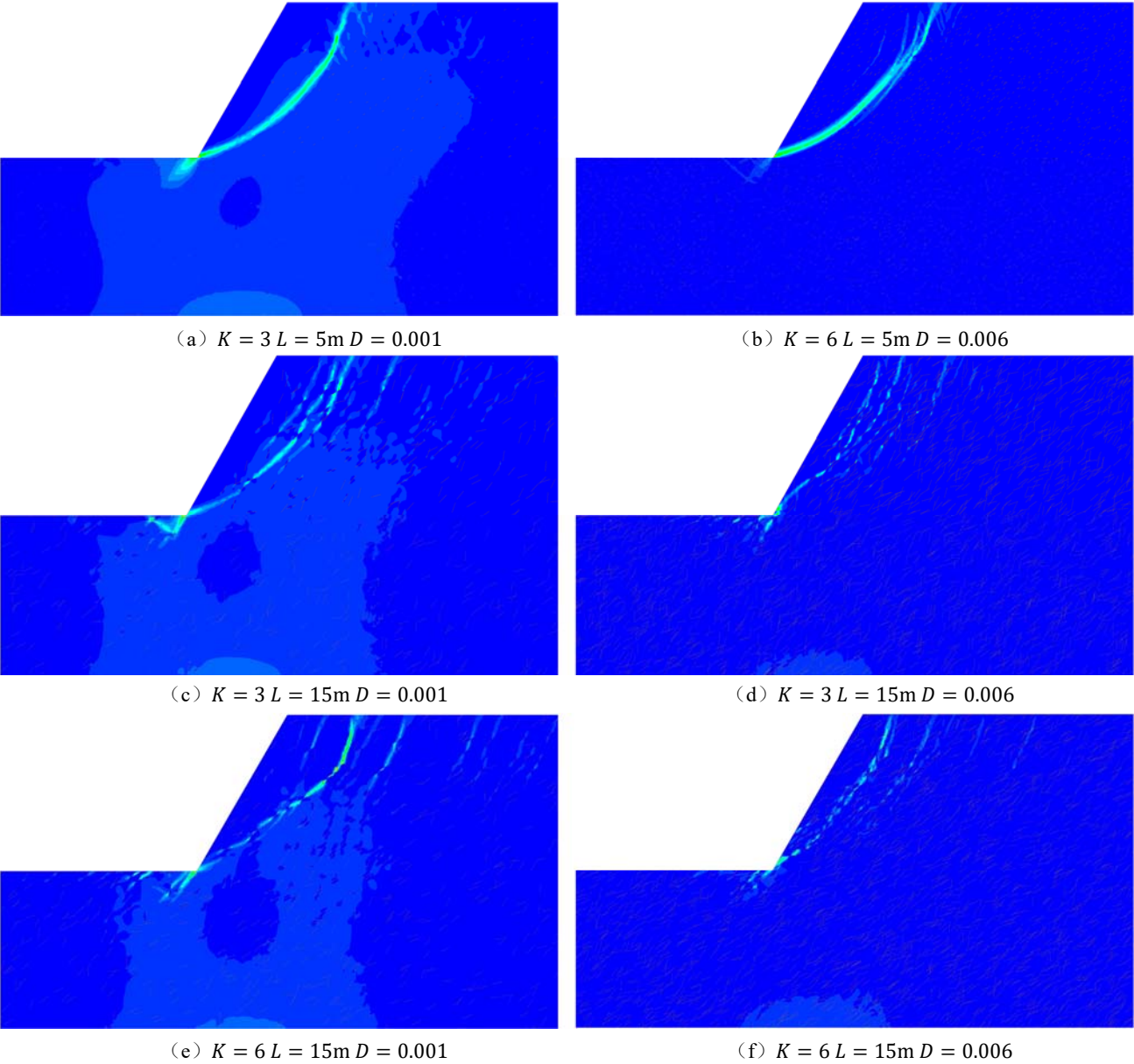
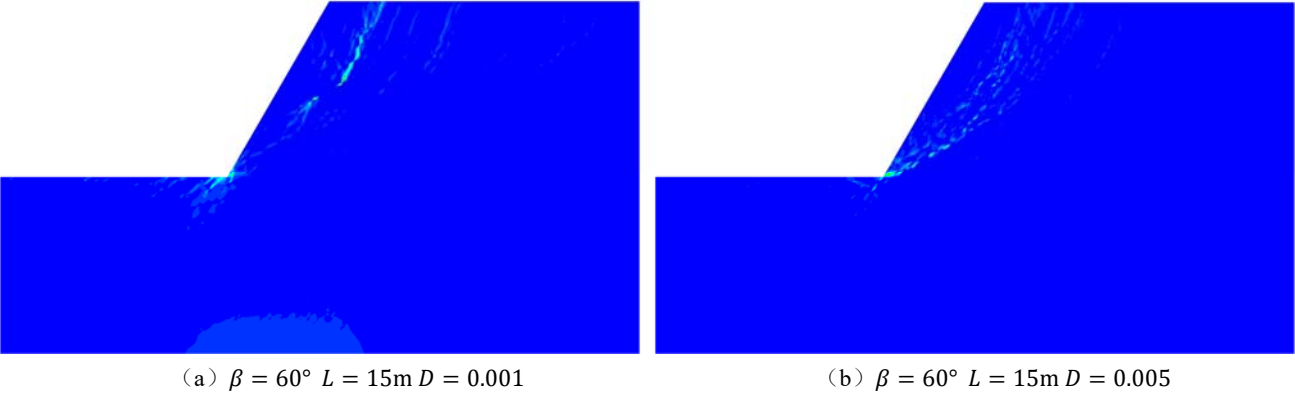
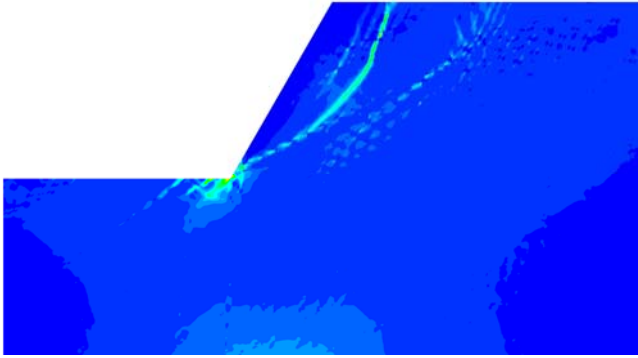


图 A1 整体块状结构边坡不同工况下最大塑性剪应变云图

Fig.A1 Clouds of maximum plastic shear strain under different working conditions on slopes of monolithic block structure





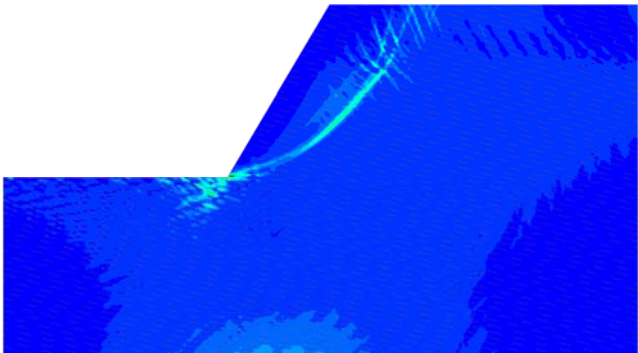
(c) $\beta = 90^\circ$ $L = 15\text{m}$ $D = 0.001$



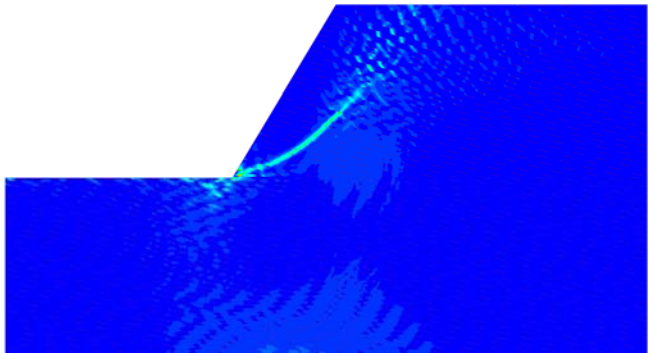
(d) $\beta = 90^\circ$ $L = 15\text{m}$ $D = 0.005$

图 A2 块状结构边坡不同工况下最大塑性剪应变云图

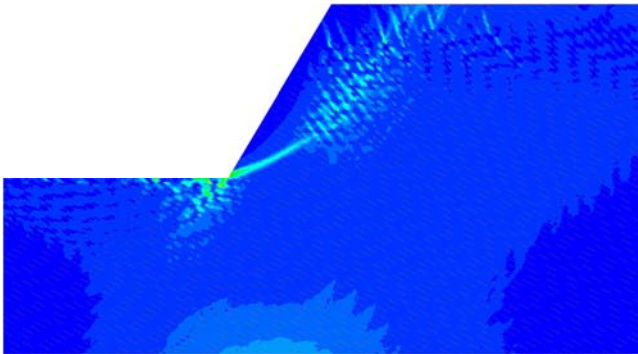
Fig.A2 Clouds of maximum plastic shear strain under different working conditions of block structure slope



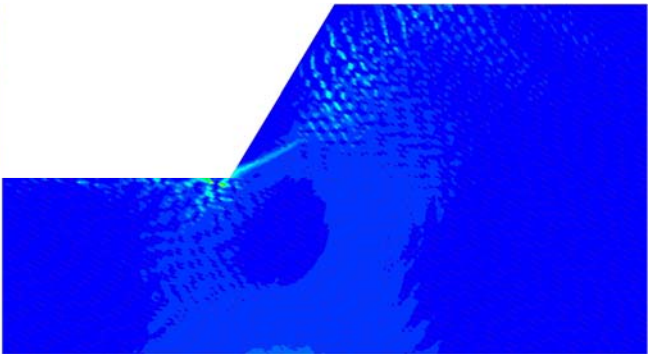
(a) $\beta = 15^\circ$ $L = 20\text{m}$ 结构面强度 1



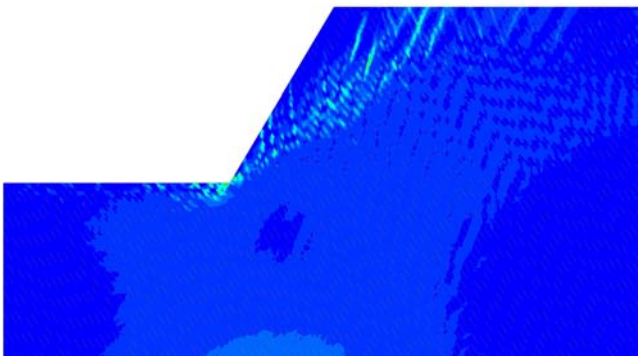
(b) $\beta = -15^\circ$ $L = 20\text{m}$ 结构面强度 5



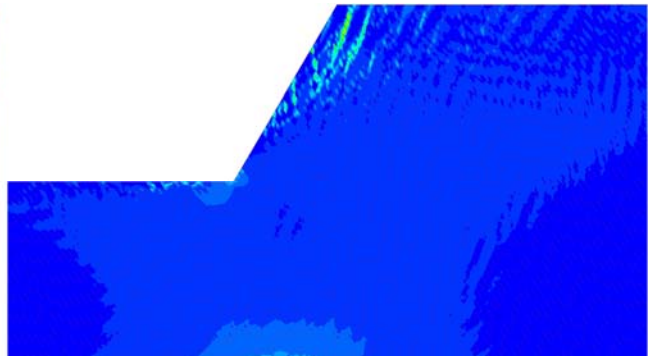
(c) $\beta = 30^\circ$ $L = 20\text{m}$ 结构面强度 1



(d) $\beta = 30^\circ$ $L = 20\text{m}$ 结构面强度 5



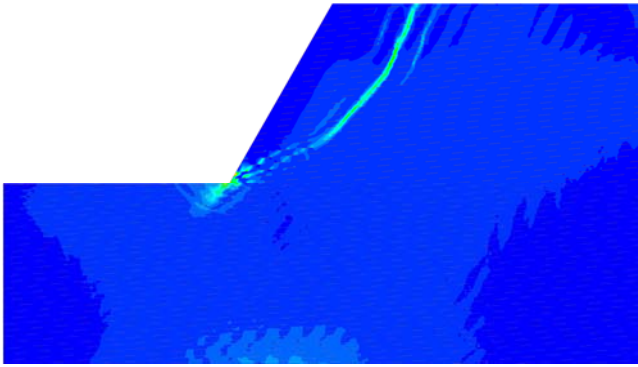
(e) $\beta = 60^\circ$ $L = 20\text{m}$ 结构面强度 1



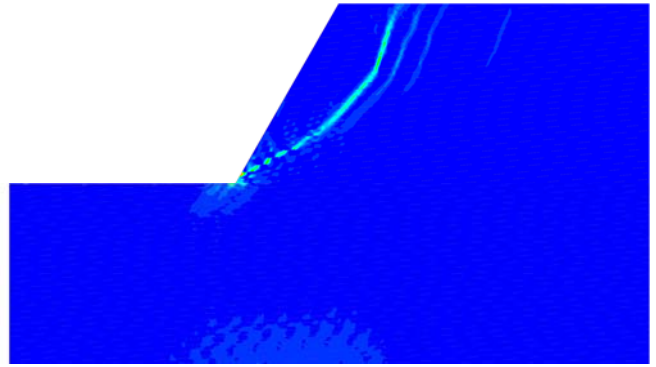
(f) $\beta = 60^\circ$ $L = 20\text{m}$ 结构面强度 5

图 A3 反向结构边坡不同工况下最大塑性剪应变云图

Fig.A3 Maximum plastic shear strain clouds under different working conditions of reversed structural slopes



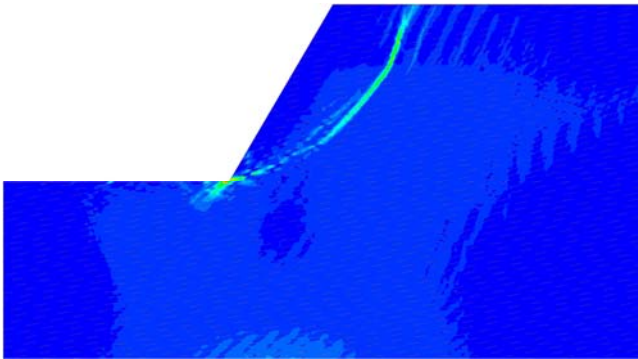
(a) $\beta = 5^\circ L = 20\text{m}$ 结构面强度 1



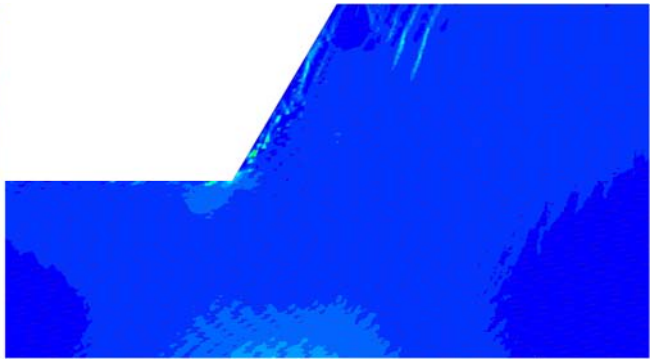
(b) $\beta = 5^\circ L = 20\text{m}$ 结构面强度 4

图 A4 平叠结构边坡不同工况下最大塑性剪应变云图

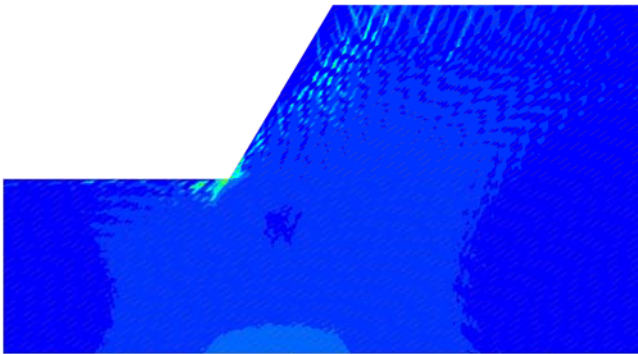
Fig.A 4 Clouds of maximum plastic shear strain under different working conditions on flat stacked slopes



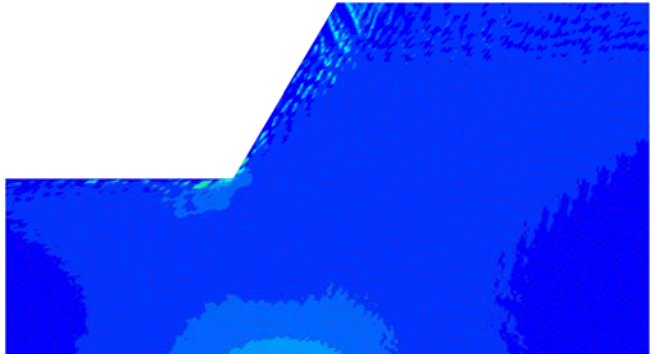
(a) $\beta = 15^\circ L = 20\text{m}$ 结构面强度 1



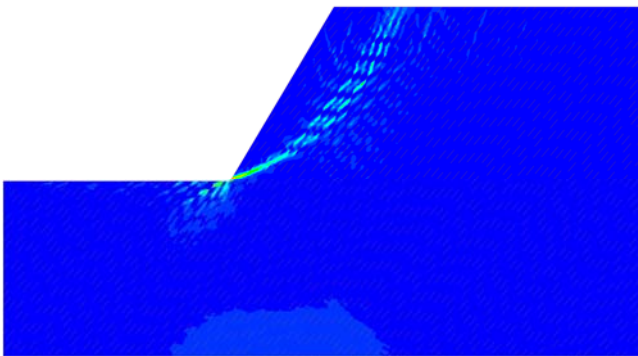
(b) $\beta = 15^\circ L = 20\text{m}$ 结构面强度 5



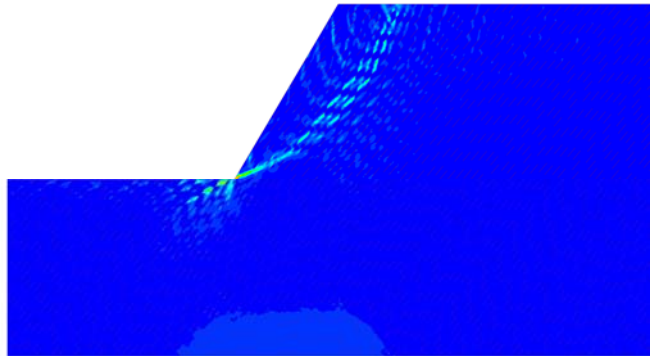
(c) $\beta = 45^\circ L = 20\text{m}$ 结构面强度 1



(d) $\beta = 45^\circ L = 20\text{m}$ 结构面强度 5



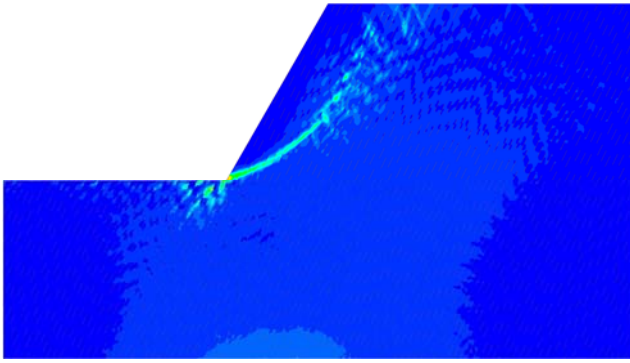
(e) $\beta = 60^\circ L = 20\text{m}$ 结构面强度 1



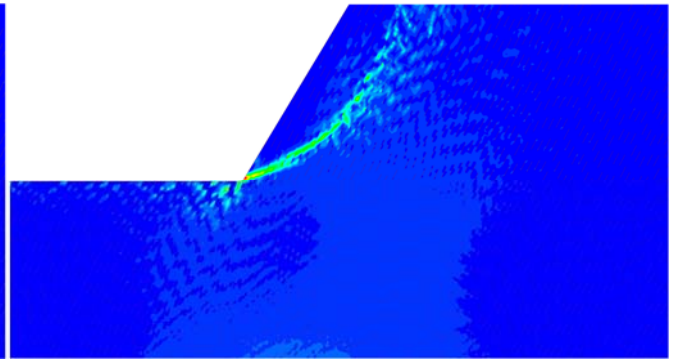
(f) $\beta = 60^\circ L = 20\text{m}$ 结构面强度 5

图 A5 斜向结构边坡不同工况下最大塑性剪应变云图

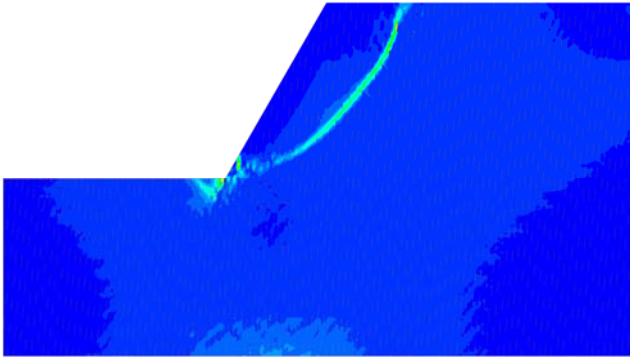
Fig.A 5 Clouds of maximum plastic shear strain under different working conditions of sloping structural slopes



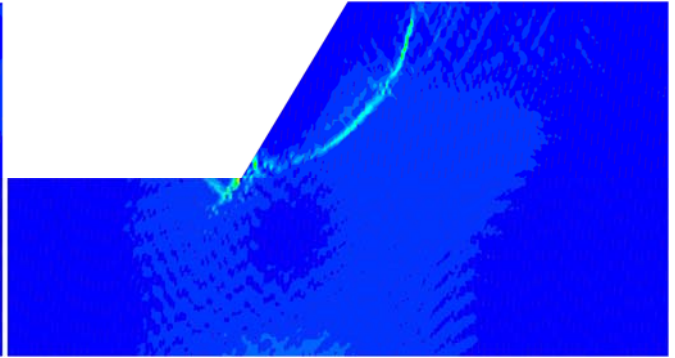
(a) $\beta = 65^\circ L = 20\text{m}$ 结构面强度 1



(b) $\beta = 65^\circ L = 20\text{m}$ 结构面强度 5



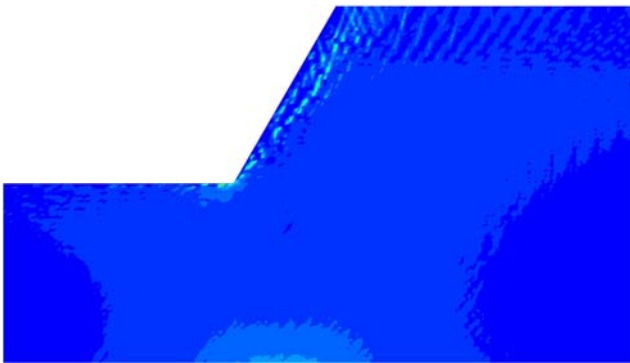
(c) $\beta = 85^\circ L = 20\text{m}$ 结构面强度 1



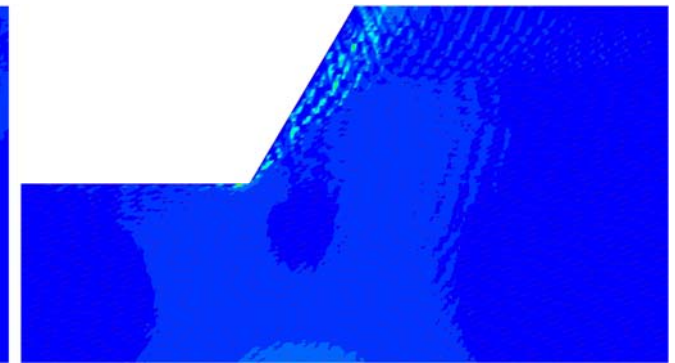
(d) $\beta = 85^\circ L = 20\text{m}$ 结构面强度 5

图 A6 层面陡倾顺向结构边坡不同工况下最大塑性剪应变云图

Fig.A6 Clouds of maximum plastic shear strain under different working conditions of steeply inclined compliant structural slopes at the level



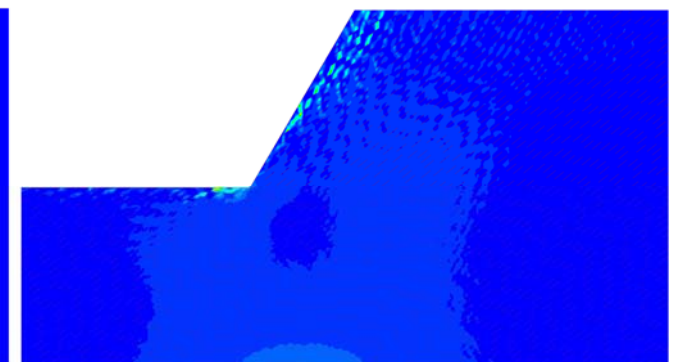
(a) $\beta = 20^\circ L = 20\text{m}$ 结构面强度 3



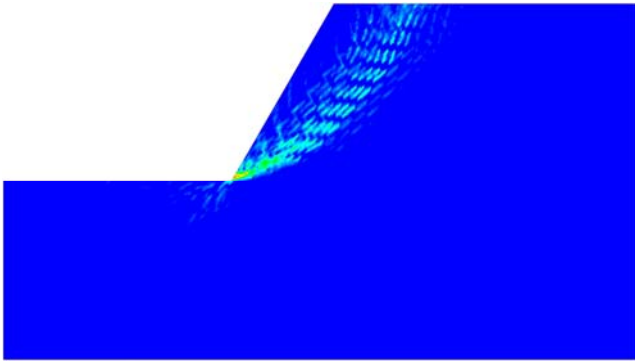
(b) $\beta = 20^\circ L = 20\text{m}$ 结构面强度 5



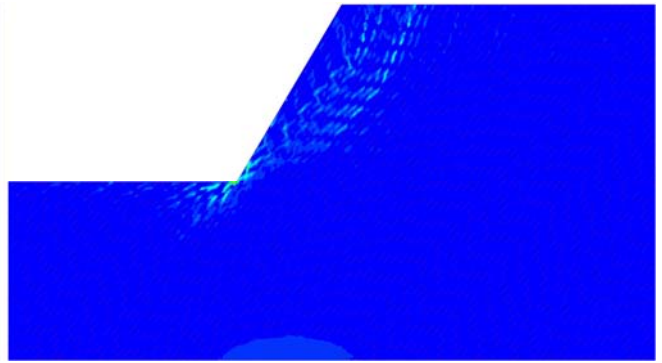
(c) $\beta = 40^\circ L = 20\text{m}$ 结构面强度 3



(d) $\beta = 40^\circ L = 20\text{m}$ 结构面强度 5



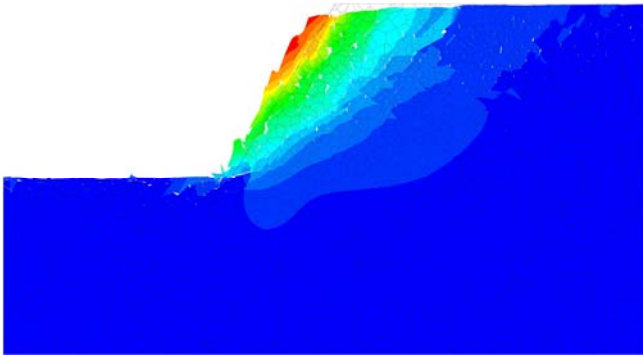
(e) $\beta = 50^\circ$ $L = 20\text{m}$ 结构面强度 3



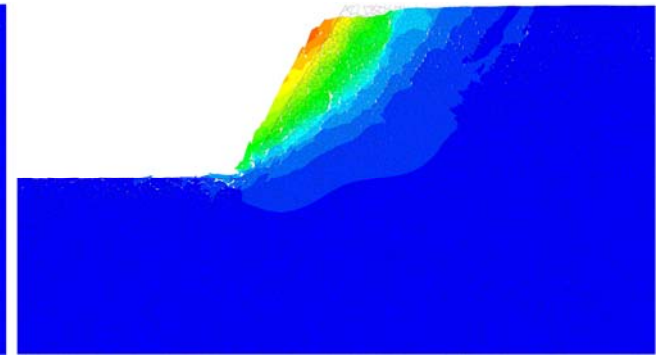
(f) $\beta = 50^\circ$ $L = 20\text{m}$ 结构面强度 5

图 A7 层面弱面顺向结构边坡不同工况下最大塑性剪应变云图

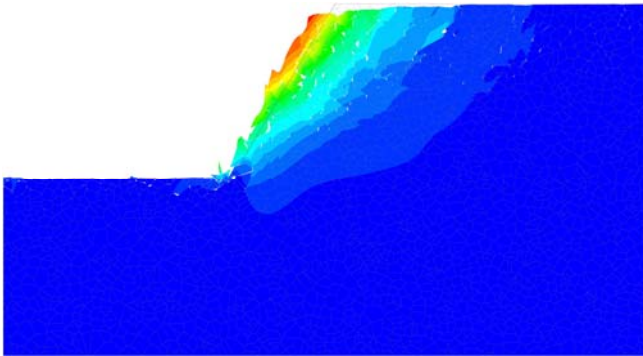
Fig.A7 Clouds of maximum plastic shear strain under different working conditions on the slope of the inline structure of the weak surface of the plane



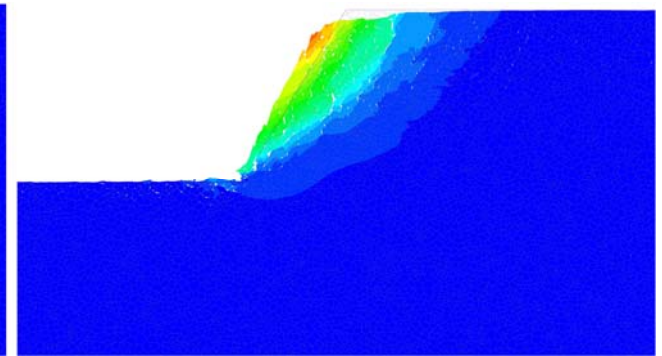
(a) $D=0.005$ 结构面强度2



(b) $D=0.015$ 结构面强度2



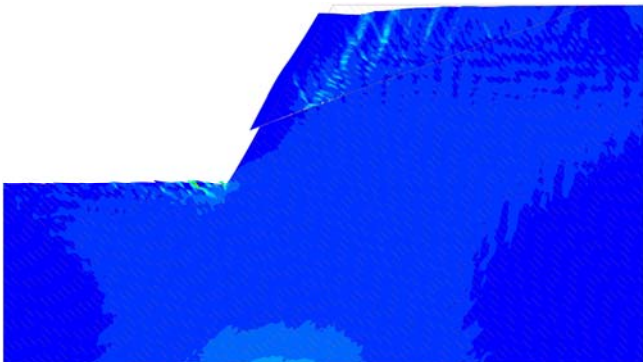
(c) $D=0.005$ 结构面强度4



(d) $D=0.015$ 结构面强度4

图 A8 碎裂散状结构边坡不同工况下总位移云图

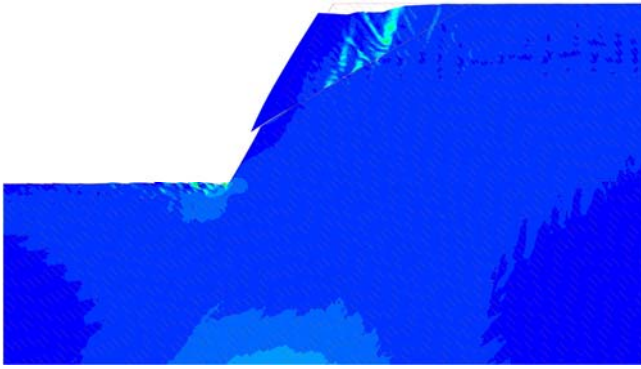
Fig.A8 Total displacement clouds under different working conditions of fractured bulk structure slope



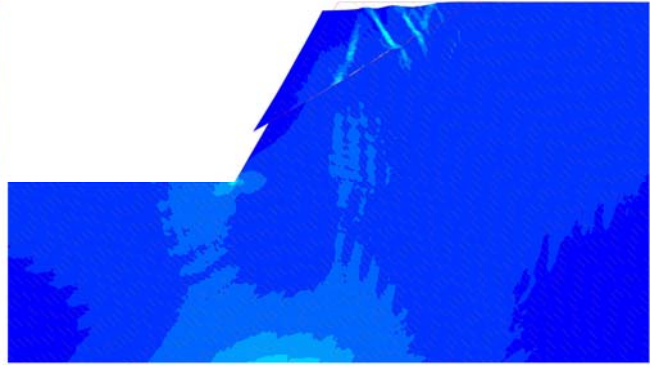
(a) $\beta = 20^\circ$ 结构面强度 1



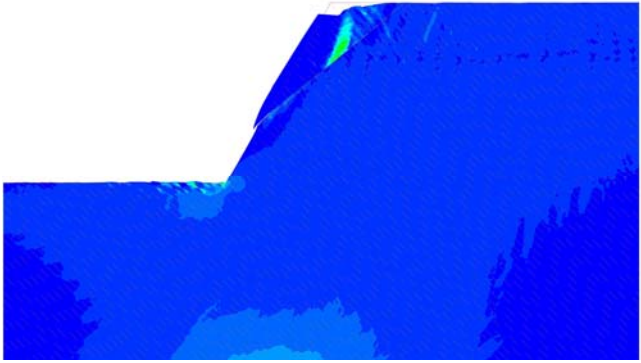
(b) $\beta = 20^\circ$ 结构面强度 5



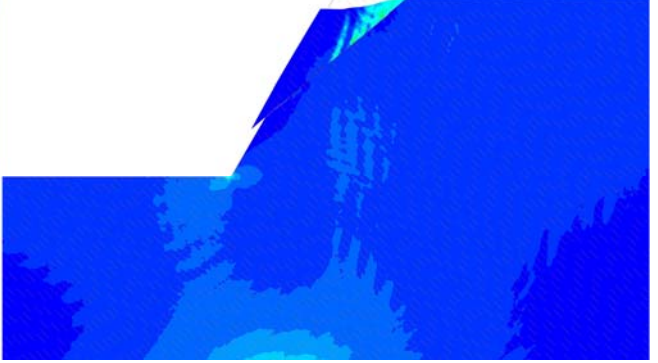
(c) $\beta = 30^\circ$ 结构面强度 1



(d) $\beta = 30^\circ$ 结构面强度 5



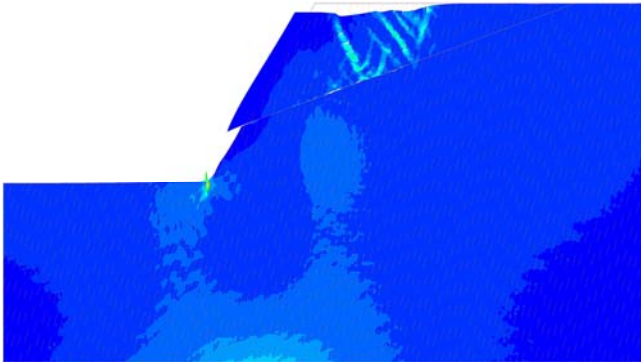
(e) $\beta = 40^\circ$ 结构面强度 1



(f) $\beta = 40^\circ$ 结构面强度 5

图 A9 反向倾倒结构边坡不同工况下最大塑性剪应变云图

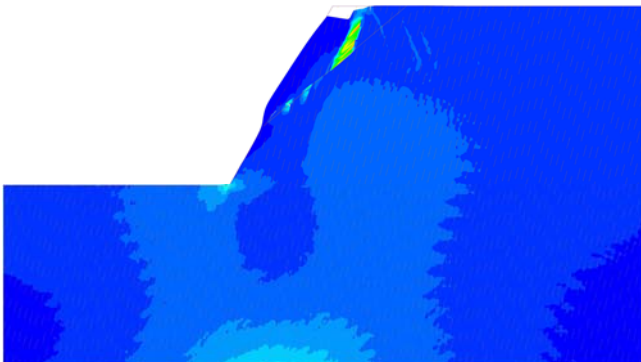
Fig.A9 Maximum plastic shear strain clouds under different working conditions of reverse tipping structure slopes



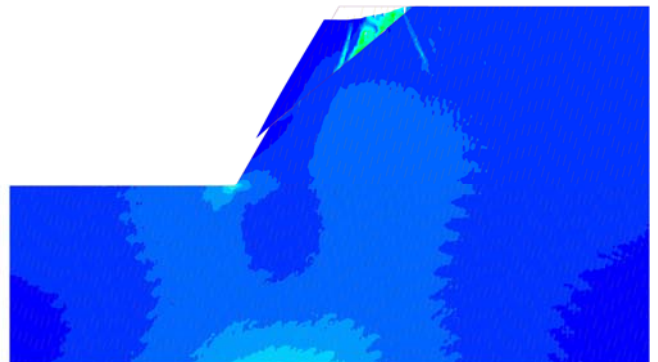
(a) $\beta = 20^\circ$ 结构面强度 1



(b) $\beta = 20^\circ$ 结构面强度 5



(c) $\beta = 40^\circ$ 结构面强度 1



(d) $\beta = 40^\circ$ 结构面强度 5

图 A10 层面陡倾顺向倾倒结构边坡不同工况下最大塑性剪应变云图

Fig.A10 Clouds of maximum plastic shear strain under different working conditions of slopes with steeply inclined downward tilting structures at the level

附录 B：不同坡体结构类型下岩质边

坡安全稳定率计算结果

表 B1 整体块状结构边坡安全稳定率
TableB1 Safety and stability rate of overall block structure slope

Fisher 常数 K	结构 面迹	结构面密度 $D/$ （单位面积结构面数目）					
	长	0.001	0.002	0.003	0.004	0.005	0.006
	L/m						
1	5	0.957	0.957	0.957	0.953	0.957	0.957
	10	0.949	0.945	0.917	0.917	0.917	0.906
	15	0.929	0.902	0.870	0.862	0.827	0.799
2	5	0.965	0.972	0.965	0.972	0.965	0.957
	10	0.957	0.965	0.957	0.945	0.921	0.929
	15	0.933	0.937	0.894	0.862	0.839	0.752
3	5	0.969	0.969	0.965	0.961	0.965	0.957
	10	0.949	0.949	0.961	0.921	0.921	0.909
	15	0.925	0.906	0.874	0.827	0.827	0.807
4	5	0.972	0.972	0.972	0.969	0.969	0.969
	10	0.957	0.945	0.949	0.929	0.929	0.937
	15	0.929	0.890	0.878	0.870	0.776	0.764
5	5	0.976	0.976	0.965	0.976	0.969	0.969
	10	0.957	0.945	0.933	0.933	0.925	0.874
	15	0.917	0.882	0.882	0.843	0.764	0.756
6	5	0.976	0.976	0.972	0.965	0.969	0.969
	10	0.957	0.957	0.937	0.929	0.917	0.909
	15	0.913	0.878	0.858	0.846	0.756	0.728

表 B2 块状结构边坡安全稳定率
TableB2 Safety and stability rate of block structure slope

结构面 2 产状	结构面 迹长	结构面密度 $D/$ （单位面积结构面数目）				
		0.001	0.002	0.003	0.004	0.005
	L/m					
倾向：270° 倾角：0° $\alpha = 0^\circ \quad \beta = 0^\circ$	5	0.957	0.965	0.953	0.961	0.957
	10	0.961	0.937	0.882	0.886	0.827
	15	0.898	0.819	0.783	0.571	0.559
倾向：270° 倾角：60° $\alpha = 0^\circ \quad \beta = 60^\circ$	5	0.965	0.965	0.957	0.957	0.957
	10	0.925	0.941	0.941	0.937	0.850
	15	0.756	0.752	0.689	0.661	0.622
倾向：270° 倾角：90° $\alpha = 0^\circ \quad \beta = 90^\circ$	5	0.953	0.961	0.961	0.957	0.949
	10	0.921	0.874	0.819	0.756	0.748
	15	0.925	0.843	0.732	0.693	0.638

结构面 2 产状	结构面 迹长	结构面密度 $D/$ （单位面积结构面数目）				
		0.001	0.002	0.003	0.004	0.005
	L/m					
倾向：90° 倾角：60° $\alpha = 0^\circ \quad \beta = -60^\circ$	5	0.961	0.957	0.965	0.961	0.965
	10	0.937	0.898	0.866	0.724	0.697
	15	0.776	0.724	0.642	0.614	0.579
倾向：90° 倾角：30° $\alpha = 0^\circ \quad \beta = -30^\circ$	5	0.957	0.965	0.953	0.965	0.953
	10	0.917	0.874	0.878	0.858	0.858
	15	0.866	0.831	0.776	0.760	0.752

注： α 为结构面与坡面走向的夹角； β 为结构面倾角，其为“+”时表示结构面与坡面倾向相同，否则相反。

表 B3 反向结构边坡安全稳定率
TableB3 Reverse structural slope safety and stability rate

结构面 迹长	结构面 产状	结构面强度				
		1	2	3	4	5
	L/m					
倾向：85° 倾角：15° $\alpha = 5^\circ \quad \beta = -15^\circ$	10	0.969	0.965	0.953	0.949	0.937
	15	0.969	0.957	0.929	0.921	0.902
	20	0.969	0.957	0.945	0.933	0.909
倾向：85° 倾角：30° $\alpha = 5^\circ \quad \beta = -30^\circ$	10	0.957	0.961	0.937	0.933	0.917
	15	0.941	0.949	0.909	0.898	0.878
	20	0.933	0.941	0.890	0.874	0.846
倾向：85° 倾角：45° $\alpha = 5^\circ \quad \beta = -45^\circ$	10	0.941	0.945	0.917	0.909	0.591
	15	0.882	0.890	0.610	0.496	0.350
	20	0.854	0.866	0.705	0.618	0.433
倾向：85° 倾角：60° $\alpha = 5^\circ \quad \beta = -60^\circ$	10	0.913	0.913	0.866	0.858	0.835
	15	0.819	0.740	0.394	0.319	0.213
	20	0.752	0.614	0.354	0.287	0.197
倾向：75° 倾角：15° $\alpha = 15^\circ \quad \beta = -15^\circ$	10	0.961	0.961	0.969	0.965	0.953
	15	0.949	0.949	0.917	0.909	0.890
	20	0.965	0.949	0.925	0.913	0.894
倾向：75° 倾角：30° $\alpha = 15^\circ \quad \beta = -30^\circ$	10	0.961	0.961	0.941	0.933	0.921
	15	0.941	0.949	0.909	0.898	0.882
	20	0.937	0.949	0.902	0.886	0.862
倾向：75° 倾角：45° $\alpha = 15^\circ \quad \beta = -45^\circ$	10	0.949	0.949	0.929	0.925	0.913
	15	0.886	0.890	0.677	0.547	0.386
	20	0.866	0.874	0.685	0.587	0.406
倾向：75° 倾角：60° $\alpha = 15^\circ \quad \beta = -60^\circ$	10	0.921	0.921	0.902	0.898	0.886
	15	0.823	0.744	0.441	0.362	0.256
	20	0.772	0.705	0.413	0.335	0.224
倾向：65° 倾角：15°	10	0.972	0.961	0.961	0.957	0.945
	15	0.957	0.961	0.945	0.933	0.913

结构面产状	结	结构面强度				
	构					
	面					
	迹长 L/m	1	2	3	4	5
$\alpha = 25^\circ \beta = -15^\circ$	20	0.953	0.953	0.949	0.937	0.913
倾向：65°	10	0.965	0.965	0.949	0.941	0.929
倾向：30°	15	0.945	0.953	0.913	0.898	0.878
$\alpha = 25^\circ \beta = -30^\circ$	20	0.941	0.945	0.902	0.886	0.854
倾向：65°	10	0.953	0.957	0.933	0.929	0.917
倾向：45°	15	0.909	0.913	0.803	0.681	0.472
$\alpha = 25^\circ \beta = -45^\circ$	20	0.874	0.882	0.665	0.567	0.394
倾向：65°	10	0.929	0.925	0.894	0.878	0.685
倾向：60°	15	0.839	0.795	0.480	0.472	0.299
$\alpha = 25^\circ \beta = -60^\circ$	20	0.787	0.720	0.409	0.339	0.236

表 B4 平叠结构边坡安全稳定率
TableA4 Safety and stability rate of flat stacked structure
slope

结构面产状	结构	结构面强度				
	面迹					
	长	1	2	3	4	5
	L/m					
倾向：270°	10	0.941	0.949	0.921	0.902	0.906
倾向：5°	15	0.909	0.925	0.866	0.850	0.803
$\alpha = 0^\circ \beta = 5^\circ$	20	0.894	0.909	0.807	0.787	0.531
倾向：270°	10	0.941	0.945	0.921	0.917	0.902
倾向：0°	15	0.913	0.921	0.878	0.866	0.850
$\alpha = 0^\circ \beta = 0^\circ$	20	0.858	0.933	0.886	0.870	0.839
倾向：90°	10	0.953	0.945	0.933	0.941	0.933
倾向：5°	15	0.925	0.933	0.894	0.886	0.874
$\alpha = 0^\circ \beta = -5^\circ$	20	0.925	0.929	0.890	0.878	0.858

表 B5 斜向结构边坡安全稳定率
TableB5 Safety and stability rate of the slope of the
inclined structure

结构面产状	结构	结构面强度				
	面迹					
	长	1	2	3	4	5
	L/m					
倾向：305°	10	0.937	0.945	0.902	0.744	0.488
倾向：15°	15	0.894	0.894	0.646	0.551	0.374
$\alpha = 35^\circ \beta = 15^\circ$	20	0.846	0.854	0.602	0.512	0.350
倾向：305°	10	0.925	0.925	0.512	0.472	0.339
倾向：30°	15	0.803	0.744	0.394	0.350	0.236
$\alpha = 35^\circ \beta = 30^\circ$	20	0.701	0.575	0.331	0.268	0.181
倾向：305°	10	0.921	0.913	0.878	0.870	0.858

结构面产状	结构	结构面强度				
	面迹					
	长	1	2	3	4	5
	L/m					
倾向：45°	15	0.882	0.870	0.811	0.791	0.776
$\alpha = 35^\circ \beta = 45^\circ$	20	0.839	0.709	0.472	0.433	0.323
倾向：305°	10	0.941	0.937	0.921	0.921	0.917
倾向：60°	15	0.917	0.906	0.890	0.886	0.878
$\alpha = 35^\circ \beta = 60^\circ$	20	0.890	0.874	0.843	0.839	0.827
倾向：315°	10	0.941	0.949	0.909	0.902	0.760
倾向：15°	15	0.890	0.902	0.705	0.563	0.413
$\alpha = 45^\circ \beta = 15^\circ$	20	0.886	0.902	0.713	0.567	0.394
倾向：315°	10	0.933	0.937	0.693	0.508	0.433
倾向：30°	15	0.850	0.740	0.409	0.331	0.220
$\alpha = 45^\circ \beta = 30^\circ$	20	0.657	0.654	0.362	0.295	0.201
倾向：315°	10	0.917	0.913	0.874	0.866	0.846
倾向：45°	15	0.846	0.764	0.441	0.433	0.382
$\alpha = 45^\circ \beta = 45^\circ$	20	0.717	0.445	0.236	0.189	0.126
倾向：315°	10	0.933	0.929	0.909	0.906	0.898
倾向：60°	15	0.902	0.894	0.866	0.862	0.854
$\alpha = 45^\circ \beta = 60^\circ$	20	0.835	0.823	0.776	0.760	0.736
倾向：325°	10	0.937	0.945	0.917	0.909	0.894
倾向：15°	15	0.898	0.906	0.815	0.713	0.472
$\alpha = 55^\circ \beta = 15^\circ$	20	0.890	0.906	0.811	0.661	0.441
倾向：325°	10	0.913	0.862	0.524	0.433	0.291
倾向：30°	15	0.858	0.843	0.457	0.366	0.244
$\alpha = 55^\circ \beta = 30^\circ$	20	0.795	0.791	0.429	0.350	0.236
倾向：325°	10	0.913	0.913	0.878	0.866	0.850
倾向：45°	15	0.795	0.650	0.350	0.280	0.185
$\alpha = 55^\circ \beta = 45^\circ$	20	0.681	0.496	0.272	0.220	0.150
倾向：325°	10	0.933	0.925	0.902	0.898	0.890
倾向：60°	15	0.870	0.854	0.681	0.634	0.626
$\alpha = 55^\circ \beta = 60^\circ$	20	0.835	0.799	0.756	0.732	0.650

表 B6 层面陡倾顺向结构边坡安全稳定率
TableB 6 Safety and stability rate of the slope of the
steeply inclined compliant structure at the level

产状	结	结构面强度				
	构					
	面迹	1	2	3	4	5
	长 L/m					
倾向：275°	10	0.961	0.953	0.941	0.941	0.937
倾向：65°	15	0.941	0.933	0.921	0.917	0.913
$\alpha = 5^\circ \beta = 65^\circ$	20	0.929	0.913	0.894	0.890	0.886
倾向：275°	10	0.965	0.965	0.957	0.957	0.953

产状	结构面迹长 <i>L</i> /m	结构面强度				
		1	2	3	4	5
倾向：75°	15	0.969	0.961	0.949	0.949	0.945
$\alpha = 5^\circ \beta = 75^\circ$	20	0.957	0.945	0.933	0.925	0.921
倾向：275°	10	0.957	0.957	0.953	0.953	0.937
倾向：85°	15	0.941	0.937	0.925	0.921	0.917
$\alpha = 5^\circ \beta = 85^\circ$	20	0.921	0.917	0.898	0.894	0.890
倾向：285°	10	0.965	0.957	0.949	0.945	0.945
倾向：65°	15	0.941	0.933	0.917	0.917	0.909
$\alpha = 15^\circ \beta = 65^\circ$	20	0.941	0.929	0.917	0.913	0.909
倾向：285°	10	0.961	0.953	0.949	0.945	0.945
倾向：75°	15	0.961	0.953	0.937	0.933	0.929
$\alpha = 15^\circ \beta = 75^\circ$	20	0.953	0.941	0.929	0.925	0.917
倾向：285°	10	0.961	0.957	0.949	0.949	0.945
倾向：85°	15	0.945	0.925	0.925	0.921	0.917
$\alpha = 15^\circ \beta = 85^\circ$	20	0.929	0.909	0.898	0.894	0.886
倾向：295°	10	0.961	0.953	0.945	0.941	0.937
倾向：65°	15	0.937	0.925	0.913	0.909	0.906
$\alpha = 25^\circ \beta = 65^\circ$	20	0.933	0.917	0.902	0.898	0.890
倾向：295°	10	0.961	0.961	0.953	0.949	0.945
倾向：75°	15	0.961	0.953	0.941	0.937	0.933
$\alpha = 25^\circ \beta = 75^\circ$	20	0.957	0.929	0.913	0.909	0.906
倾向：295°	10	0.949	0.953	0.945	0.941	0.941
倾向：85°	15	0.945	0.945	0.937	0.929	0.925
$\alpha = 25^\circ \beta = 85^\circ$	20	0.917	0.913	0.902	0.902	0.898

表 B7 层面弱面顺向结构边坡安全稳定率						
TableB7 Safety and stability rate of the inline structural slope of weak surface at the level						
结构面产状	结构面迹长		结构面强度			
	<i>L</i> /m		3	4	5	
倾向：275°	10		0.492	0.402	0.283	
倾向：20°	15		0.421	0.343	0.232	
$\alpha = 5^\circ \beta = 20^\circ$	20		0.406	0.343	0.228	
倾向：275°	10		0.870	0.862	0.843	
倾向：30°	15		0.386	0.303	0.217	
$\alpha = 5^\circ \beta = 30^\circ$	20		0.268	0.220	0.146	
倾向：275°	10		0.886	0.878	0.866	
倾向：40°	15		0.748	0.579	0.472	
$\alpha = 5^\circ \beta = 40^\circ$	20		0.335	0.260	0.173	
倾向：275°	10		0.898	0.894	0.890	
倾向：50°	15		0.850	0.846	0.839	
$\alpha = 5^\circ \beta = 50^\circ$	20		0.807	0.795	0.780	

倾向：285°	10	0.539	0.437	0.311
倾向：20°	15	0.429	0.354	0.240
$\alpha = 15^\circ \beta = 20^\circ$	20	0.413	0.350	0.232
倾向：285°	10	0.890	0.878	0.866
倾向：30°	15	0.472	0.311	0.209
$\alpha = 15^\circ \beta = 30^\circ$	20	0.272	0.220	0.150
倾向：285°	10	0.902	0.894	0.886
倾向：40°	15	0.732	0.709	0.618
$\alpha = 15^\circ \beta = 40^\circ$	20	0.433	0.331	0.220
倾向：285°	10	0.913	0.909	0.906
倾向：50°	15	0.827	0.819	0.811
$\alpha = 15^\circ \beta = 50^\circ$	20	0.768	0.752	0.728
倾向：295°	10	0.528	0.429	0.287
倾向：20°	15	0.461	0.374	0.252
$\alpha = 25^\circ \beta = 20^\circ$	20	0.425	0.358	0.240
倾向：295°	10	0.890	0.878	0.866
倾向：30°	15	0.472	0.311	0.209
$\alpha = 25^\circ \beta = 30^\circ$	20	0.272	0.220	0.150
倾向：295°	10	0.882	0.874	0.862
倾向：40°	15	0.630	0.472	0.394
$\alpha = 25^\circ \beta = 40^\circ$	20	0.311	0.217	0.146
倾向：295°	10	0.894	0.890	0.882
倾向：50°	15	0.807	0.795	0.780
$\alpha = 25^\circ \beta = 50^\circ$	20	0.673	0.626	0.425

表 B8 碎裂散状结构边坡安全稳定率					
TableB8 Safety and stability rate of slopes with fractured and scattered structures					
结构面密度 <i>D</i> /单位面积多边形数目	结构面强度				
	2	3	4	5	
0.005	0.563	0.299	0.236	0.161	
0.010	0.476	0.252	0.205	0.138	
0.015	0.571	0.315	0.256	0.173	
0.020	0.547	0.295	0.232	0.161	
0.025	0.591	0.323	0.260	0.173	
0.030	0.583	0.311	0.252	0.169	
0.035	0.547	0.303	0.248	0.165	
0.040	0.524	0.283	0.232	0.154	

表 B9 倾倒结构边坡安全稳定率						
TableB9 Safety and stability rate of the slope of dumping structure						
结构面产状	结构面倾角 $\beta/^\circ$	贯穿型结构面强度				
		1	2	3	4	5
反向结构： $\alpha 1 = 5^\circ$	20	0.539	0.535	0.343	0.299	0.205
$\beta 1 = -45^\circ$	30	0.445	0.421	0.248	0.205	0.138

贯穿型结构面:	40	0.421	0.331	0.177	0.146	0.098
$\alpha_2 = 0^\circ$	50	0.567	0.287	0.146	0.118	0.075
陡倾顺向结构:	20	0.598	0.362	0.370	0.307	0.213
$\alpha_1 = 5^\circ$	30	0.449	0.445	0.244	0.201	0.134
$\beta_1 = 75^\circ$						
贯穿型结构面:	40	0.421	0.335	0.181	0.146	0.098

$\alpha_2 = 0^\circ$	50	0.579	0.299	0.146	0.114	0.079
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注: α_1 为反向结构面或陡倾顺向结构面与坡面走向的夹角; α_2 为贯穿型结构面与坡面走向的夹角; β_1 为反向结构面或陡倾顺向结构面的倾角; β_2 为贯穿型结构面的倾角, β_1 与 β_2 为“+”时表示与坡面倾向相同, 否则相反。

附录 C: 不同坡体结构类型下岩质边坡安全稳定率变化图像

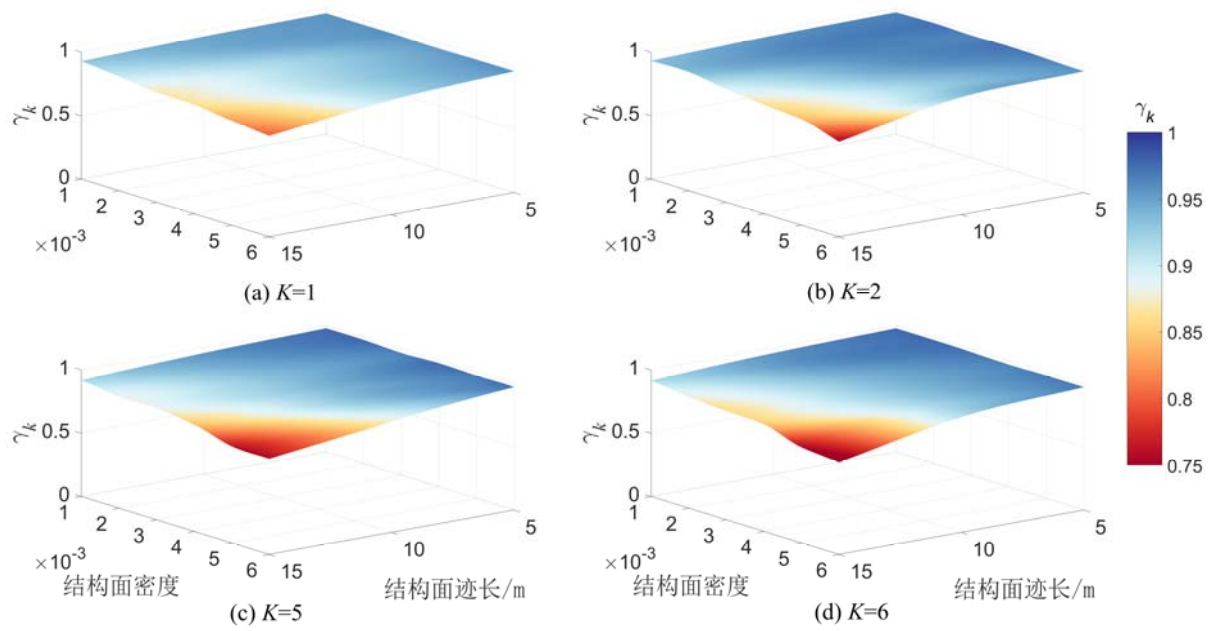


图 C1 整体块状结构边坡安全稳定率变化情况
Fig.C1 Change of safety and stability rate of overall block structure slope

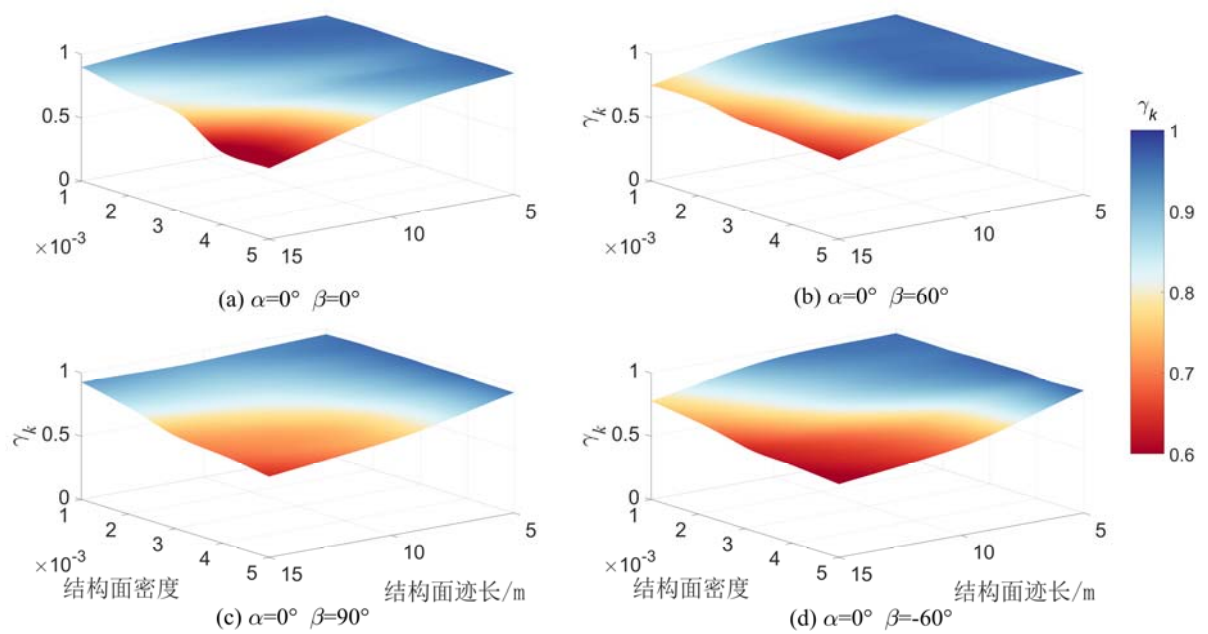


图 C2 块状结构边坡安全稳定率变化情况
Fig.C2 Changes in safety and stability rate of block structure slopes

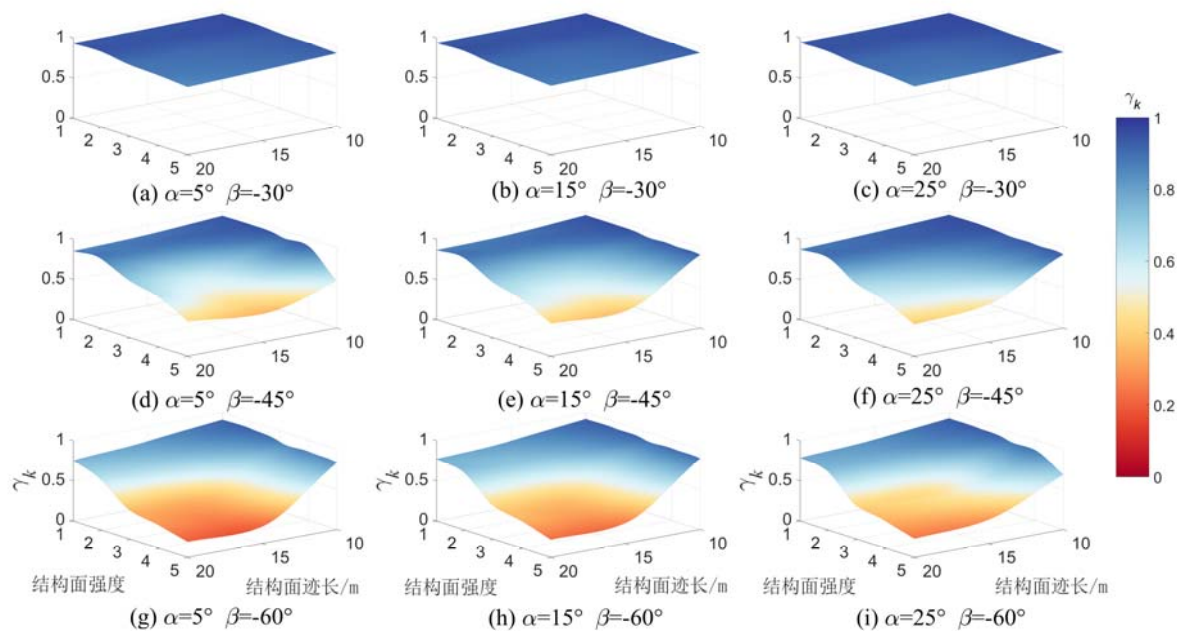


图 C3 反向结构边坡安全稳定性率变化情况
Fig.C3 Change in safety and stability rate of reverse structural slopes

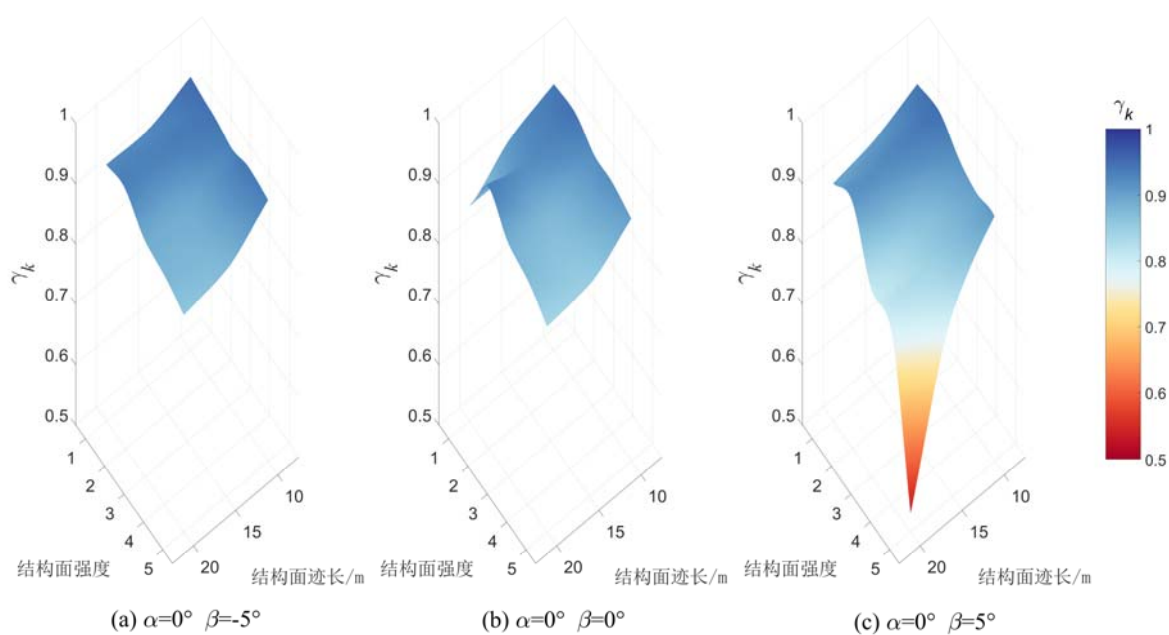


图 C4 平叠结构边坡安全稳定性率变化情况
Fig.C4 Changes in safety and stability rates of flat stacked structural slopes

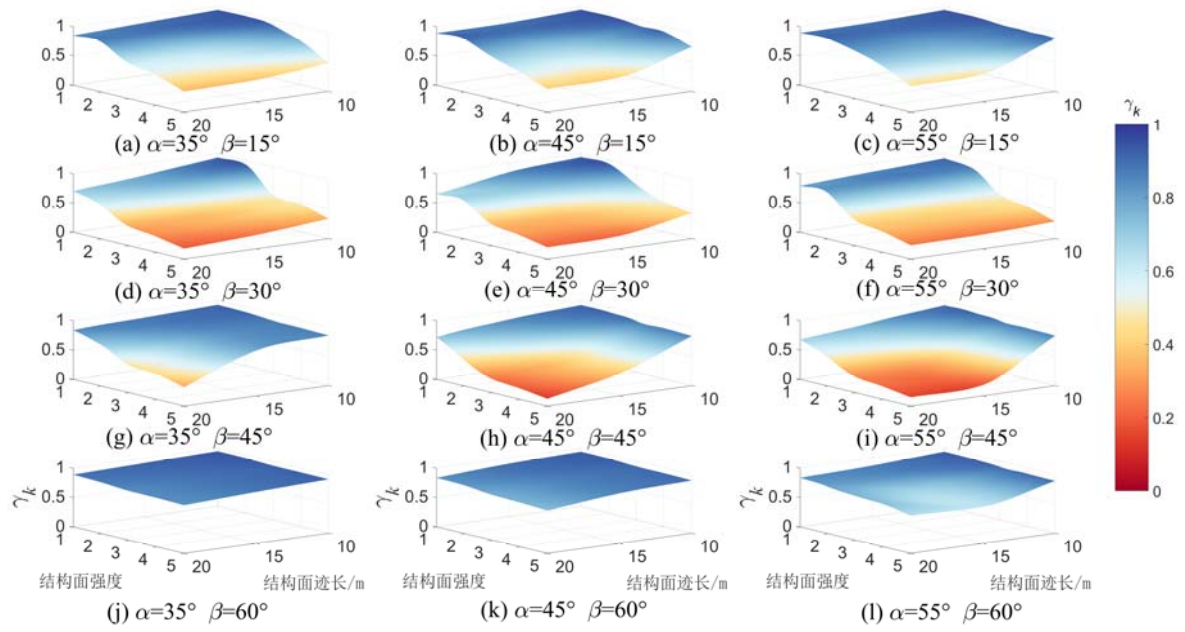


图 C5 斜向结构边坡安全稳率变化情况
Fig.C5 Changes in safety and stability rates of slopes of sloping structures

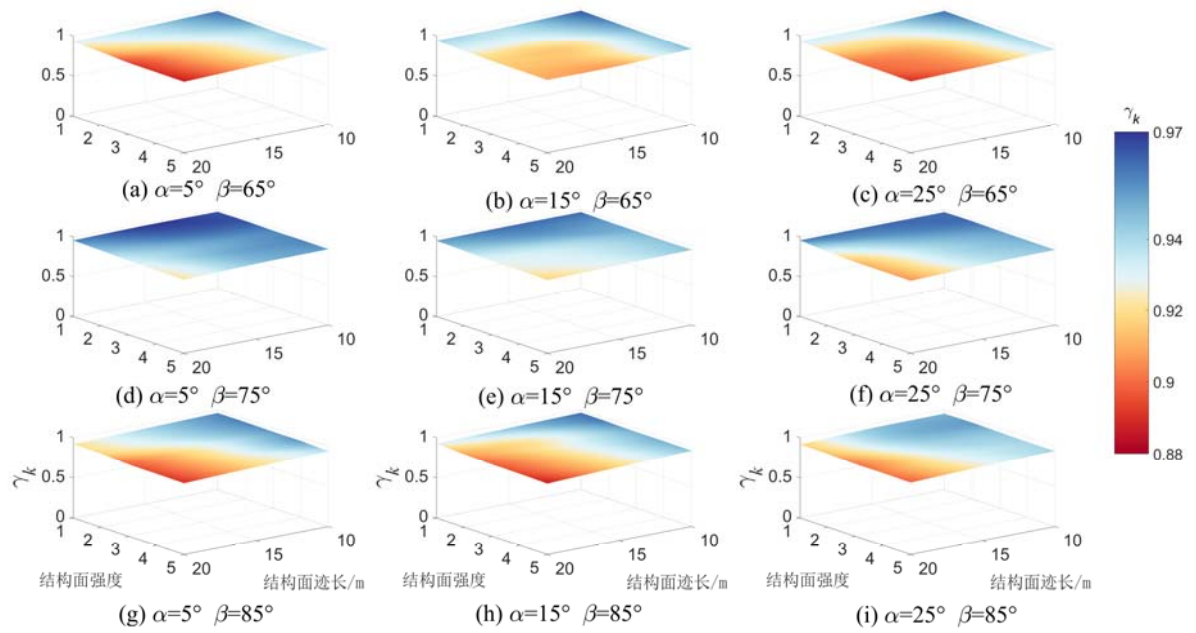


图 C6 层面陡倾顺向结构边坡安全稳率变化情况
Fig.C6 Changes in safety and stability rates of steeply dipping downhill structural slopes at the level

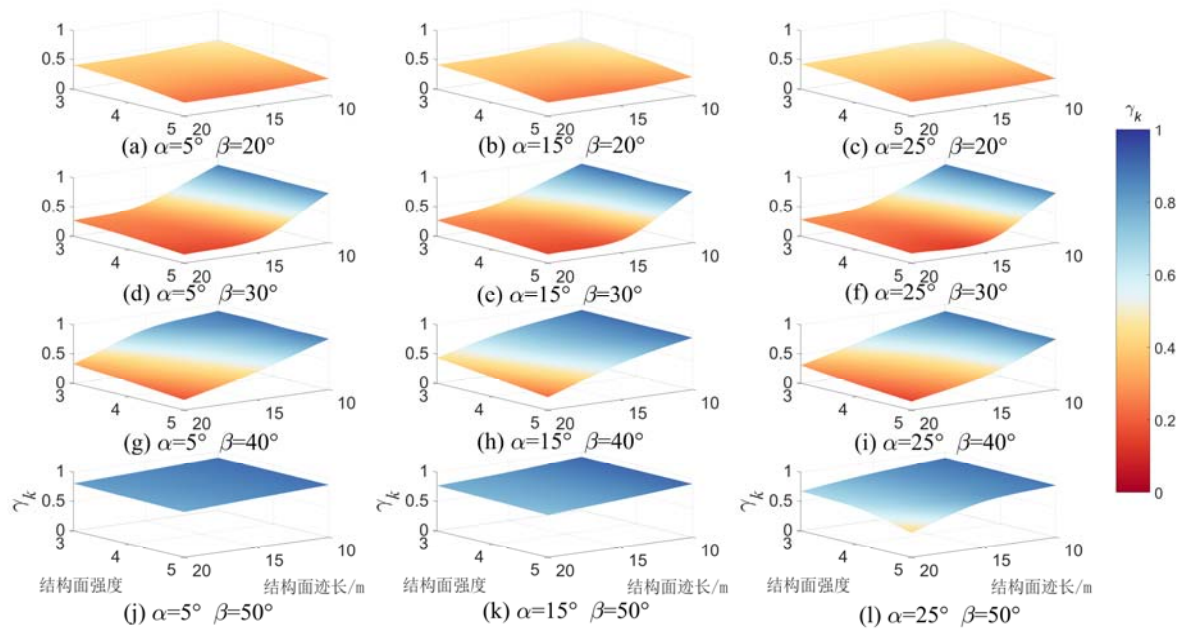


图 C7 层面弱面顺向结构边坡安全稳定率变化情况
Fig.C7 Variation of safety and stability rate of inline structure slope of weak surface at the level

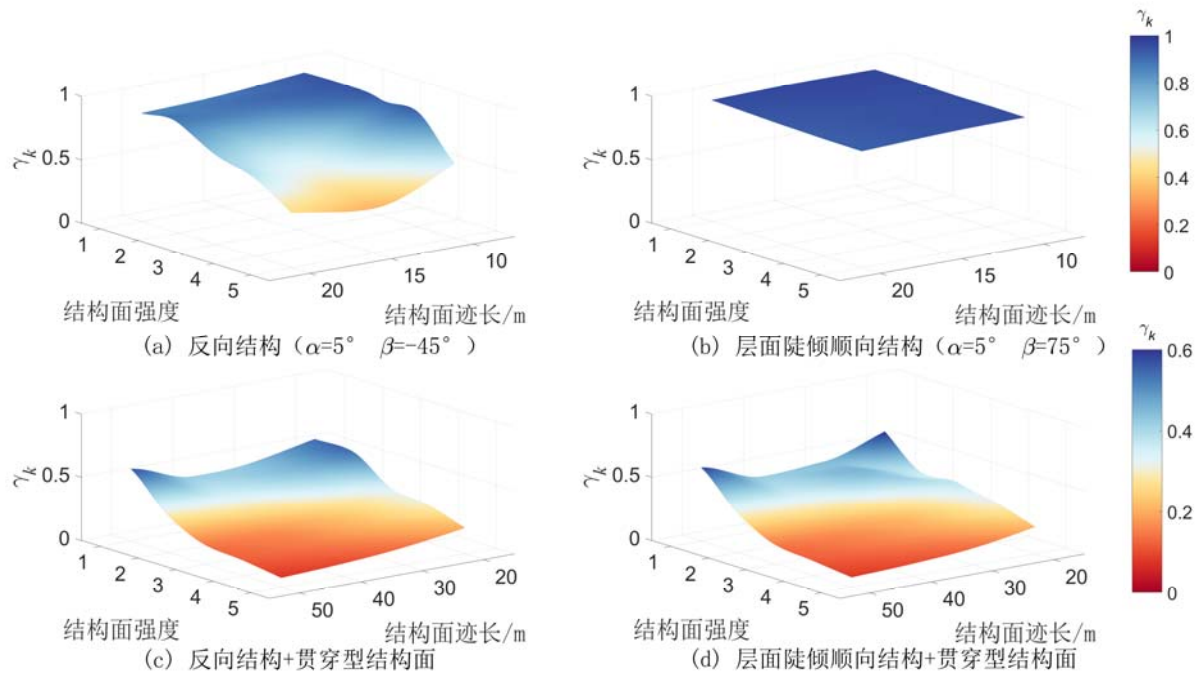


图 C8 倾倒结构边坡安全稳定率变化情况
Fig.C8 Changes in safety and stability rates of slopes of dumped structures