Неравенства на Бел

Bell's inequalities

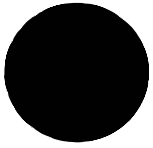
АПР/Бел постановка

Айнщайн-Подолски-Розен/Бел

Einstein-Podolsky-Rosen/Bell

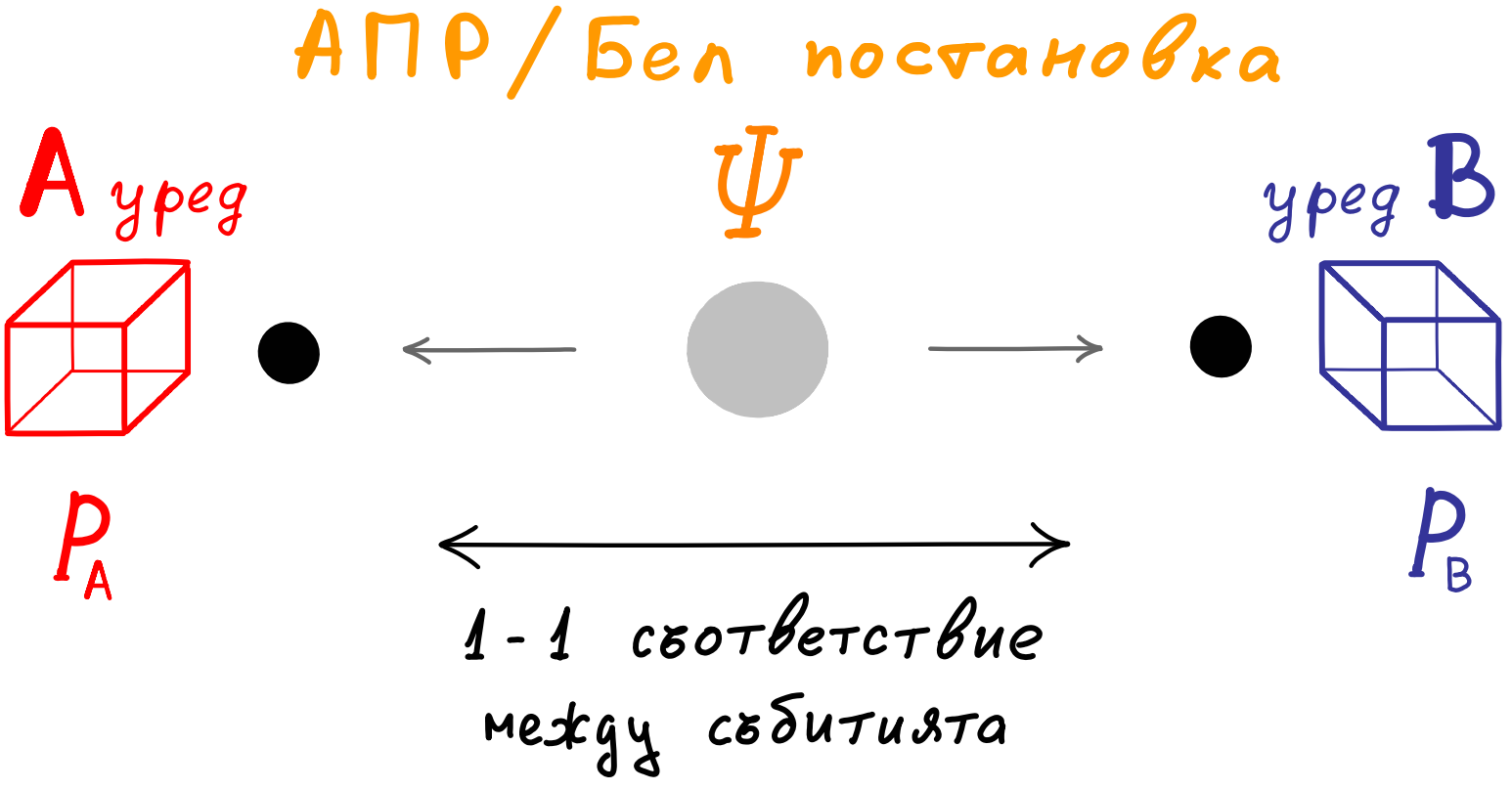
АПР/Бел постановка

Ψ

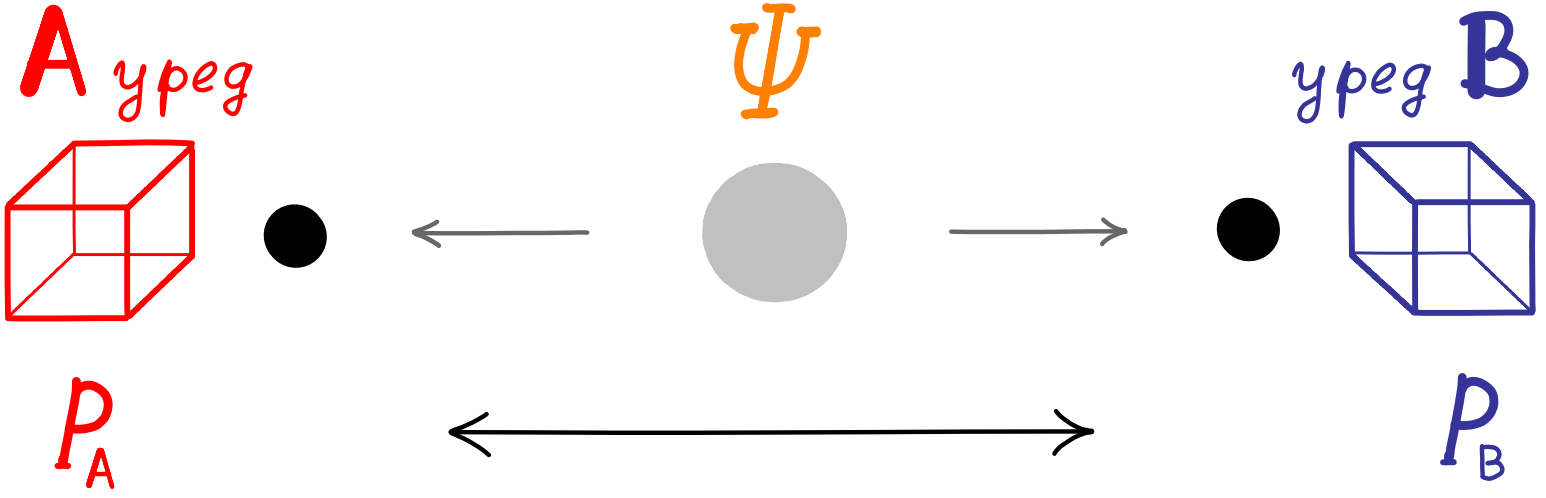



АПР / Бел постановка
ψ

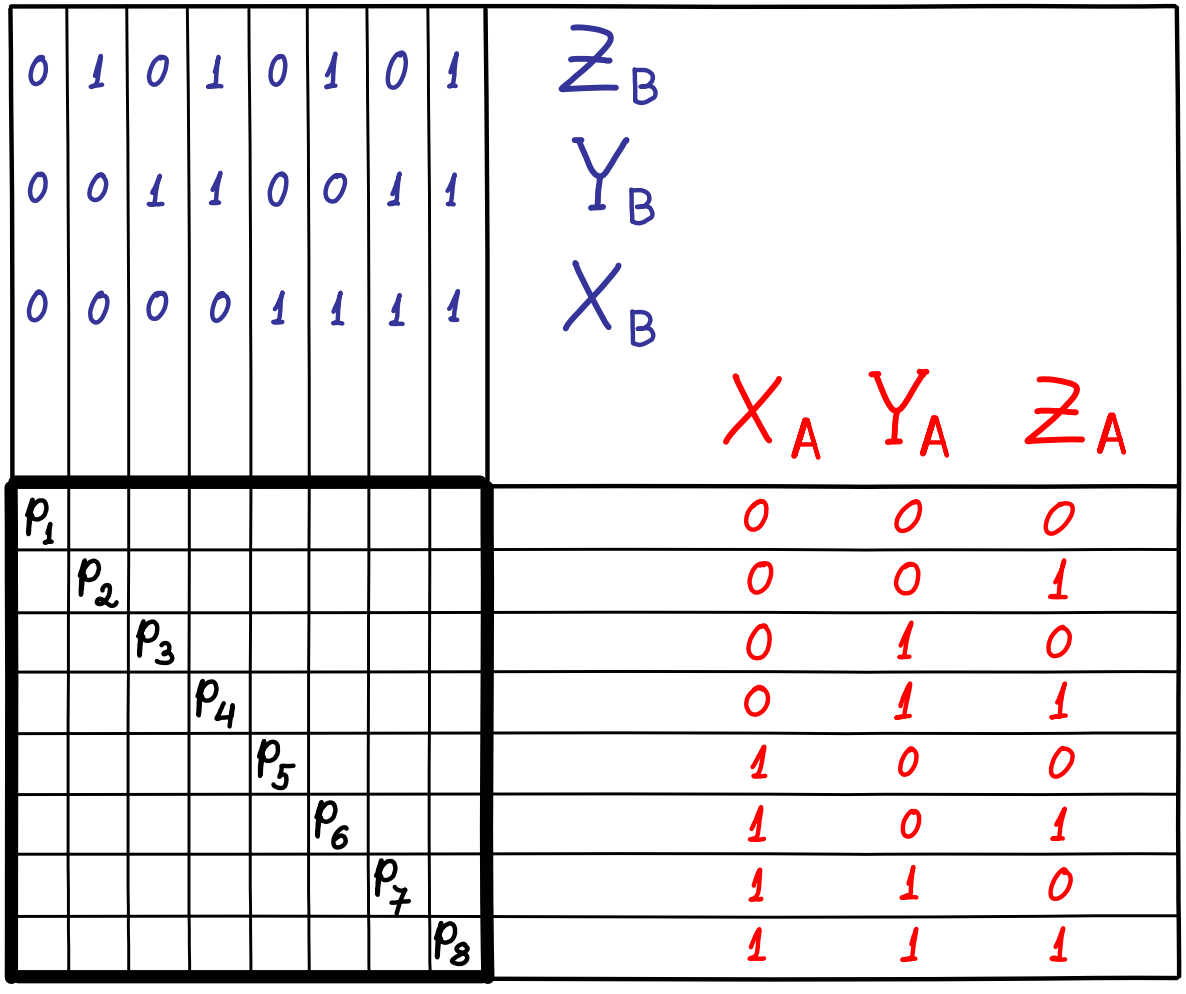

АПР/Бел постановка
A уред
ψ
уред B

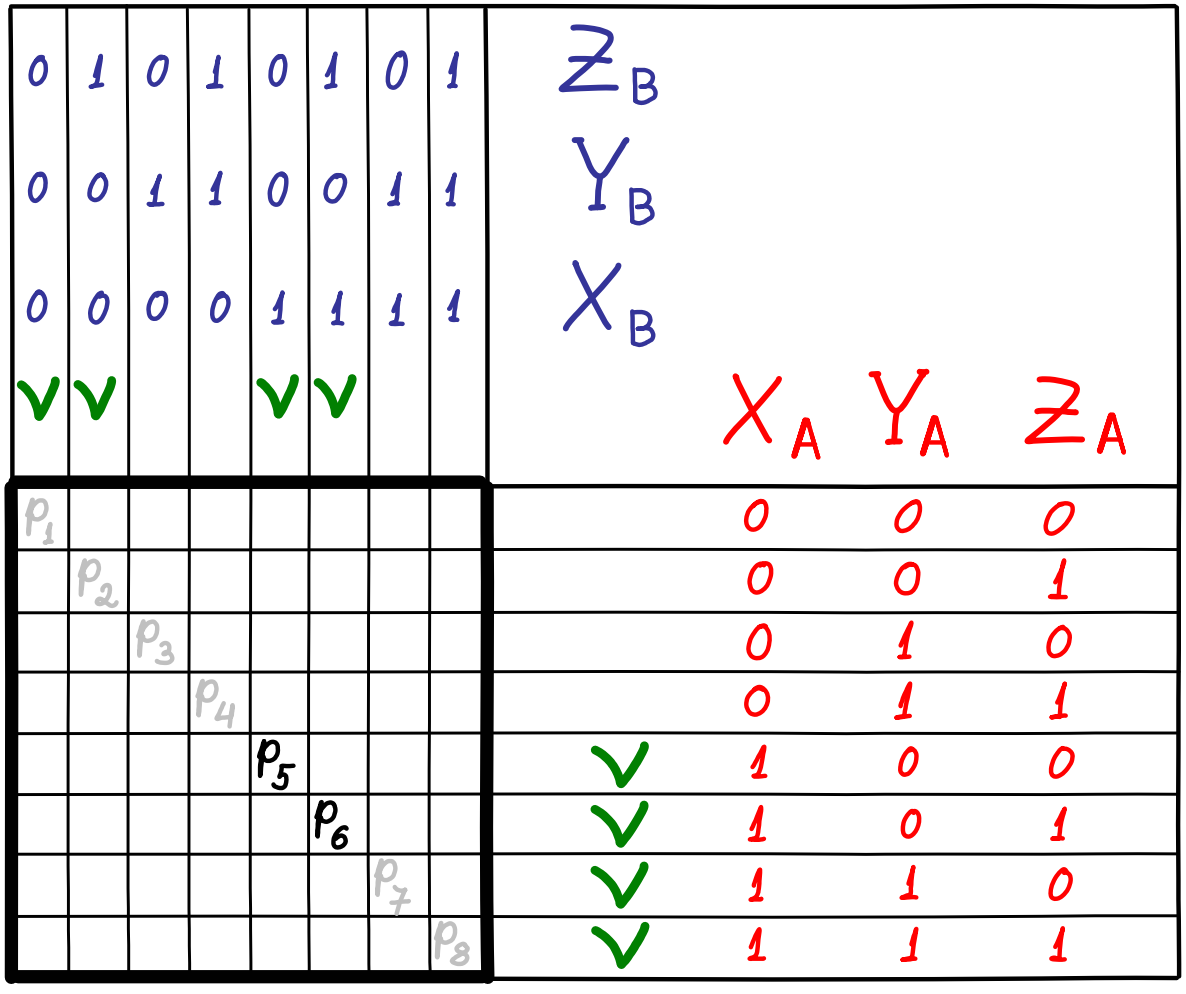

АПР/Бел постановка
A уред
Ψ
уред B
P_A
P_B
1-1 съответствие
между събитията

АПР/Бел постановка



При такава синхронизация между уредите ще има 100% корелация на резултатите.


0 1 0 1 0 1 0 1
0 0 1 1 0 0 1 1
0 0 0 0 1 1 1 1
Z_B
Y_B
X_B
X_A Y_A Z_A
p_1
p_2
p_3
p_4
p_5
p_6
p_7
p_8
0 0 0
0 0 1
0 1 0
0 1 1
1 0 0
1 0 1
1 1 0
1 1 1

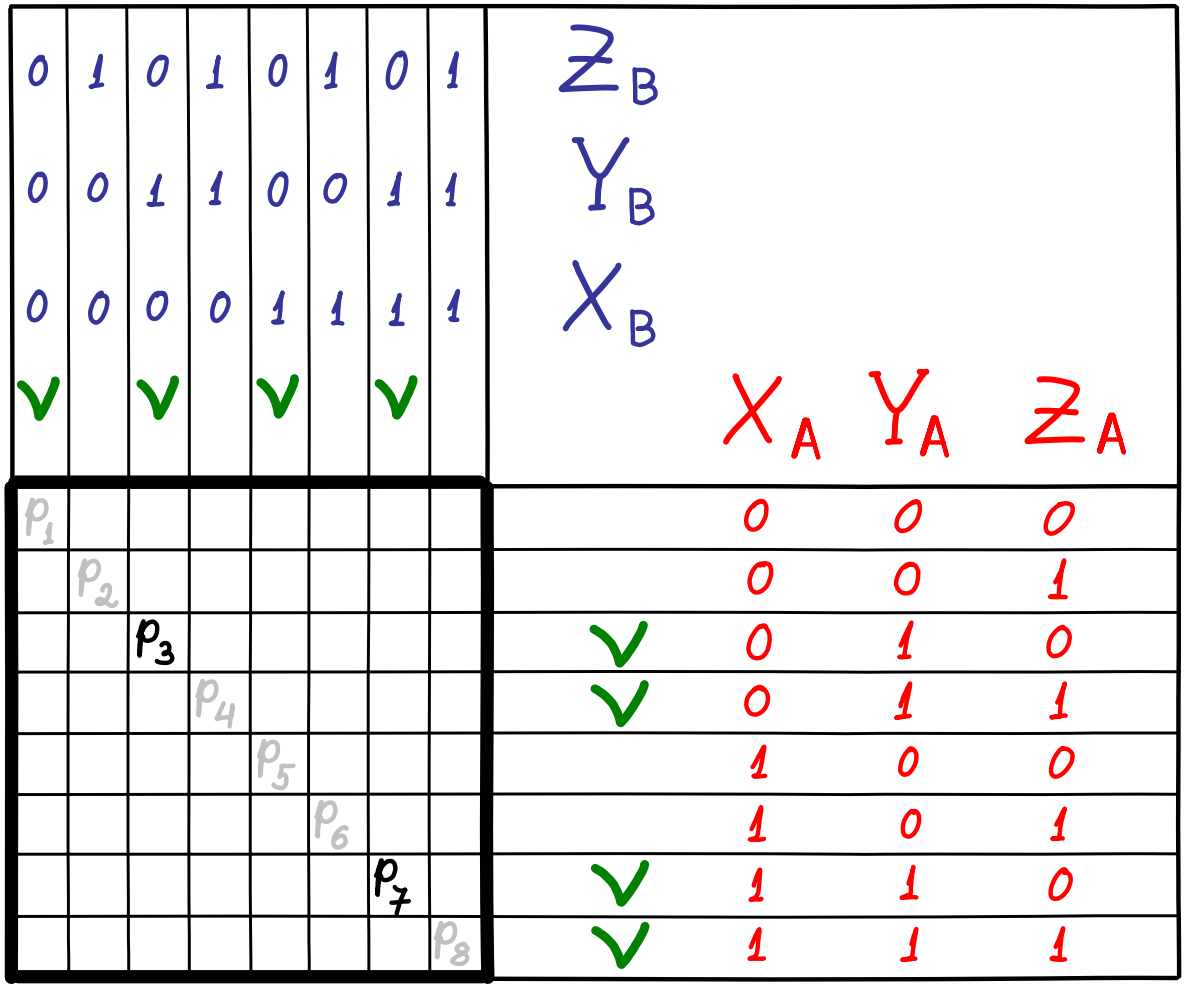


$$p\left(X_A Y_B^{\perp}\right) = p_5 + p_6$$

$$p\left(Y_A Z_B^{\perp}\right) = p_3 + p_7$$

$$-p\left(X_A Z_B^{\perp}\right) = -p_5 - p_7$$

$$\geqslant 0$$



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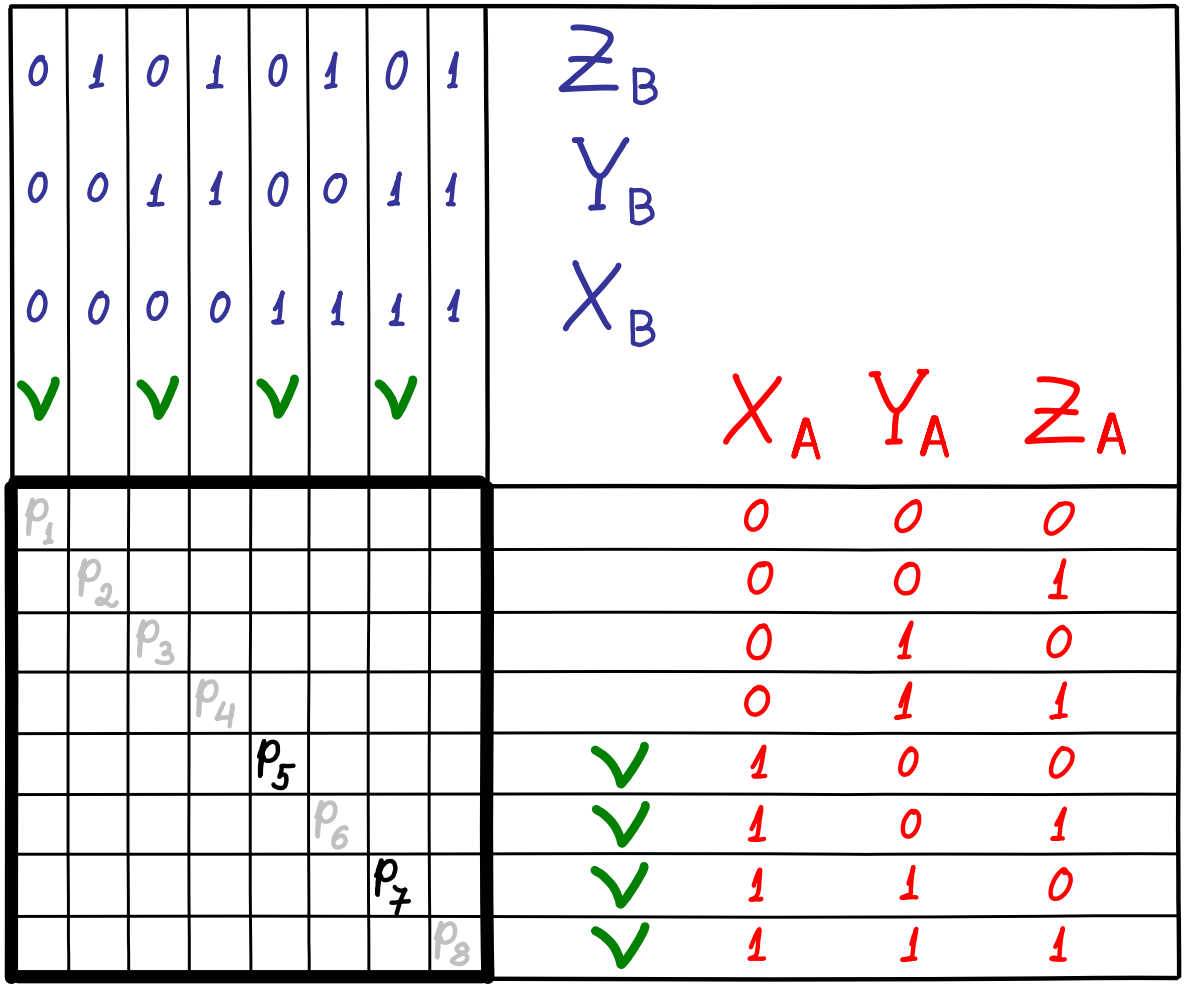

$$p\left(X_A Y_B^{\perp}\right) = p_5 + p_6$$

$$p\left(Y_A Z_B^{\perp}\right) = p_3 + p_7$$

$$-p\left(X_A Z_B^{\perp}\right) = -p_5 - p_7$$

$$\geq 0$$

	0	1	0	1	0	1	0	1
Z_B	0	0	1	1	0	0	1	1
Y_B	0	0	0	0	1	1	1	1
X_B								
p_1								
	p_2							
		p_3						
			p_4					
				p_5				
					p_6			
						p_7		
							p_8	

X_A	Y_A	Z_A
0	0	0
0	0	1
0	1	0
0	1	1
1	0	0
1	0	1
1	1	0
1	1	1

$$p\left(X_A Y_B^{\perp}\right) = p_5 + p_6$$

$$p\left(Y_A Z_B^{\perp}\right) = p_3 + p_7$$

$$-p\left(X_A Z_B^{\perp}\right) = -p_5 - p_7$$

$$\geq 0$$