

Неравенства на Бел

Bell's inequalities

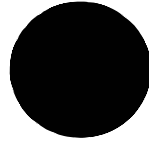
АПР / Бел постановка

Айцайн - Подолски - Розен / Бел

Einstein - Podolsky - Rosen / Bell

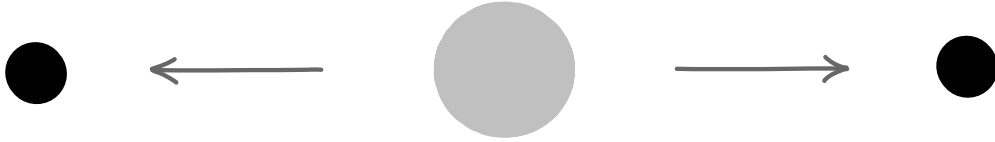
АПР / Бел постановка

Ψ



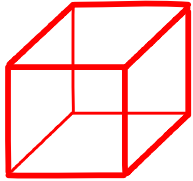
АПР / Бел постановка

Ψ

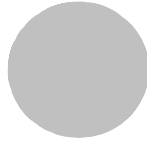


АПР / Бел постановка

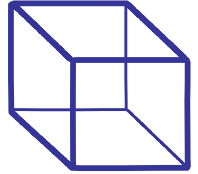
A уред



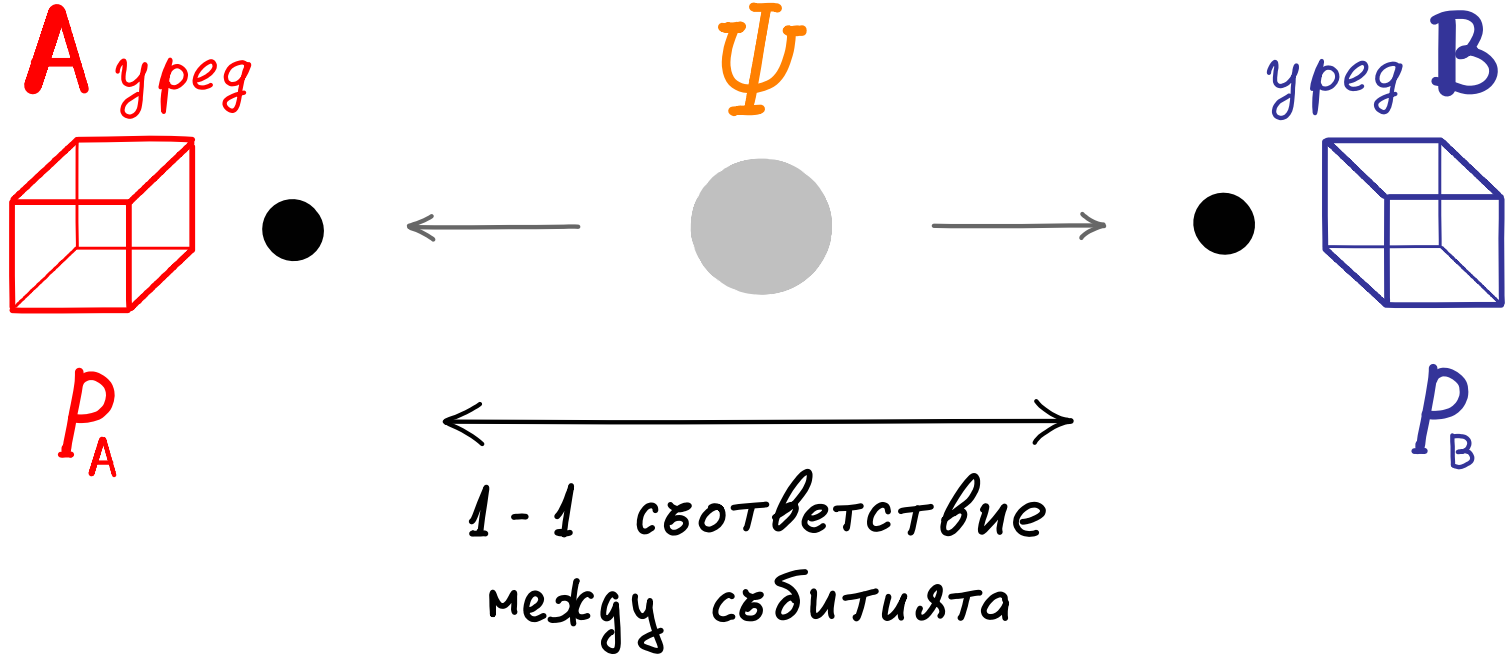
Ψ



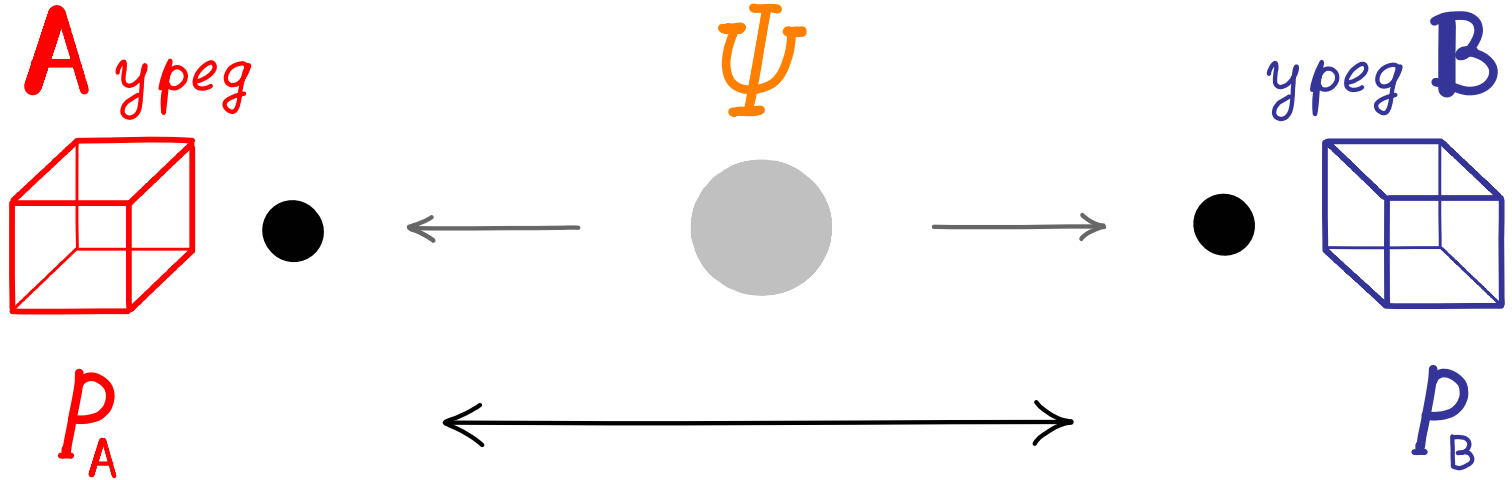
уред **B**



АПР / Бел постановка



АПР / Бел постановка



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

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			
✓	✓			✓	✓				X_A	Y_A	Z_A
p_1									0	0	0
	p_2								0	0	1
		p_3							0	1	0
			p_4						0	1	1
				p_5				✓	1	0	0
					p_6			✓	1	0	1
						p_7		✓	1	1	0
							p_8	✓	1	1	1

$$p(X_A Y_B^\perp) = p_5 + p_6$$

$$p(Y_A Z_B^\perp) = p_3 + p_7$$

$$-p(X_A Z_B^\perp) = -p_5 - p_7$$

$$\geq 0$$

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			
✓		✓		✓		✓			X_A	Y_A	Z_A
p_1									0	0	0
	p_2								0	0	1
		p_3						✓	0	1	0
			p_4					✓	0	1	1
				p_5					1	0	0
					p_6				1	0	1
						p_7		✓	1	1	0
							p_8	✓	1	1	1

$$p(X_A Y_B^\perp) = p_5 + p_6$$

$$p(Y_A Z_B^\perp) = p_3 + p_7$$

$$-p(X_A Z_B^\perp) = -p_5 - p_7$$

$$\geq 0$$

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			
✓		✓		✓		✓			X_A	Y_A	Z_A
p_1									0	0	0
	p_2								0	0	1
		p_3							0	1	0
			p_4						0	1	1
				p_5				✓	1	0	0
					p_6			✓	1	0	1
						p_7		✓	1	1	0
							p_8	✓	1	1	1

$$p(X_A Y_B^\perp) = p_5 + p_6$$

$$p(Y_A Z_B^\perp) = p_3 + p_7$$

$$-p(X_A Z_B^\perp) = -p_5 - p_7$$

$$\geq 0$$

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								X_A
	p_2							Y_A
		p_3						Z_A
			p_4					
				p_5				
					p_6			
						p_7		
							p_8	
								0
								0
								1
								0
								1
								1
								0
								1
								1
								1

$$p(X_A Y_B^\perp) = p_5 + p_6$$

$$p(Y_A Z_B^\perp) = p_3 + p_7$$

$$-p(X_A Z_B^\perp) = -p_5 - p_7$$

$$\geq 0$$