

# EPR PAIR AND QUANTUM ENTANGLEMENT

QUANTUM ENTANGLE MEANS THAT WHEN THERE IS A PAIR OF PARTICLES WHICH IS ENTANGLED WHICH ARE SEPARATED BY A VERY LARGE DISTANCE AND WHENEVER THERE IS A SMALL DISTURBANCE IN ONE STATE OF A PARTICLE WITH A NO TIME DELAY THERE WILL BE THE SAME CHANGE IN THE OTHER PARTICLE AS WELL. IN GENERAL TERMS Quantum entanglement is a physical phenomenon that occurs when pairs or groups of particles are generated, interact, or share spatial proximity in ways such that the quantum state of each particle cannot be described independently of the state of the others, even when the particles are separated by a large distance.

## EPR PAIR

EPR PAIR IS A PAIR OF QUANTUM BITS THAT ARE IN A BELL STATE TOGETHER

## BELL STATE

TWO QBITS ARE SAID TO BE IN BELL STATE WHEN THEIR QUANTUM STATES ARE ENTANGLED MAXIMALLY, USUALLY QUANTUM BITS ARE SEPARATED SPATIALLY AND THEY EXCEPTIONALLY EXHIBIT CORRELATION

## EPR PARADOX

The original EPR paradox challenges the prediction of quantum mechanics that it is impossible to know both the position and the momentum of a quantum particle.