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(57) Abstract :
The present disclosure provides a system and method for high speed information transfer using a pair of electrically coupled, negatively charged sub¬atomic particles. The method pertains to entrapping a Cooper pair of negatively charged sub-atomic particles using a first and a second single electron transistor, followed by determination of spin states of the trapped negatively charged sub¬atomic particles using a first and a second Stern-Gerlach apparatus. The method pertains to placing the trapped first and second negatively charged sub-atomic particles at a first and a second location, the first and second locations being separated by predetermined distance. The method pertains to controlling spin states of the negatively charged sub-atomic particles by application of beams of light and a second magnetic field. Inversion of spin state of the first and the second negatively charged sub-atomic particles are encoded in form of digital information, the change of spin states at the first location being configured to induce a change of spin states in the second location.

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