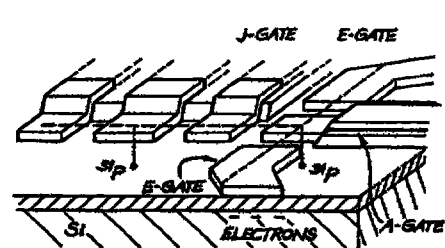
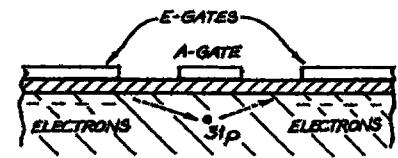
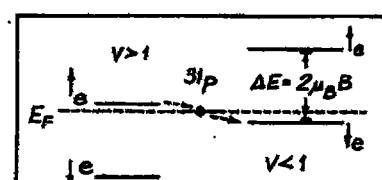
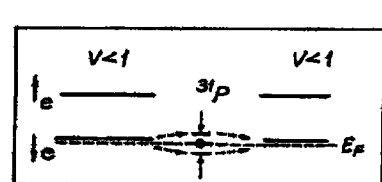


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(54) Title: QUANTUM COMPUTER ☒ (57) Abstract A quantum computer comprising a semiconductor substrate into which donor atoms are introduced to produce an array of donor nuclear spin electron systems having large electron wave functions at the nucleus of the donor atoms, where the donor electrons only occupy the nondegenerate lowest spin energy level. An insulating layer above the substrate. Conducting A-gates on the insulating layer above respective donor atoms to control strength of the hyperfine interactions between the donated electrons and the donor atoms' nuclear spins, and hence the resonance frequency of the nuclear spins of the donor atoms. Conducting J-gates on the insulating layer between the A-gates to turn on and off electron mediated coupling between the nuclear spins or adjacent donor atoms. Where the nuclear spins of the donor atoms are the quantum states or "qubits" in which binary information is stored and manipulated by selective application of voltage to the A- and J-gates and selective application of an alternating magnetic field to the substrate.	1 PER 2-3-99    	

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