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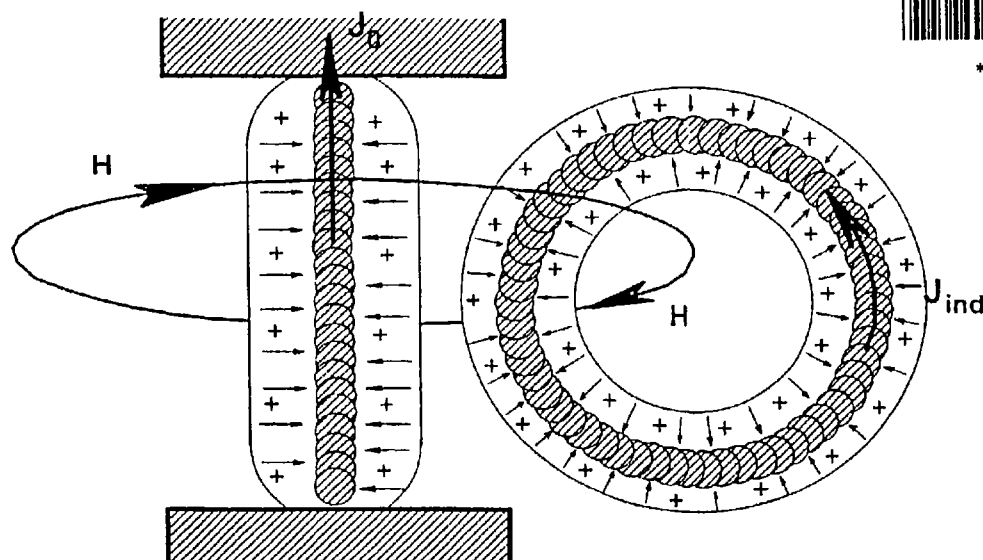
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(54) Title: CONDUCTIVE POLYMER MATERIALS AND METHODS FOR THEIR MANUFACTURE AND USE



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(57) **Abstract:** Quantum nanowires are produced in a medium comprising ions, dopants and free electrons, wherein the free electrons are solvated by complexes of ions and dopants. Electrical conductivity of the quantum nanowires can be higher than for conventional metal conductors. Quantum nanowires can be prepared in linear or circular form, and can be used to manufacture electrical components including transistors, sensors, motors and other nanoscale electrical components including transistors, sensors, motors and other nanoscale passive or active devices. Nanoscale devices can be made in liquid, semisolid, or solid media. Methods are provided for the manufacture of quantum nanowires and devices made therefrom. The devices can be used in the manufacture of computers, electronic circuits, biological implants and other products.

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