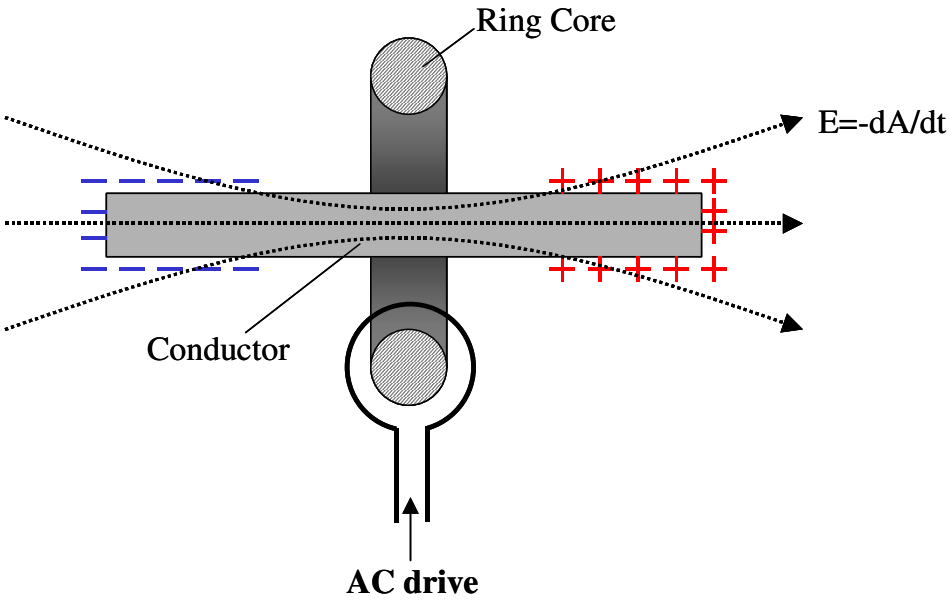
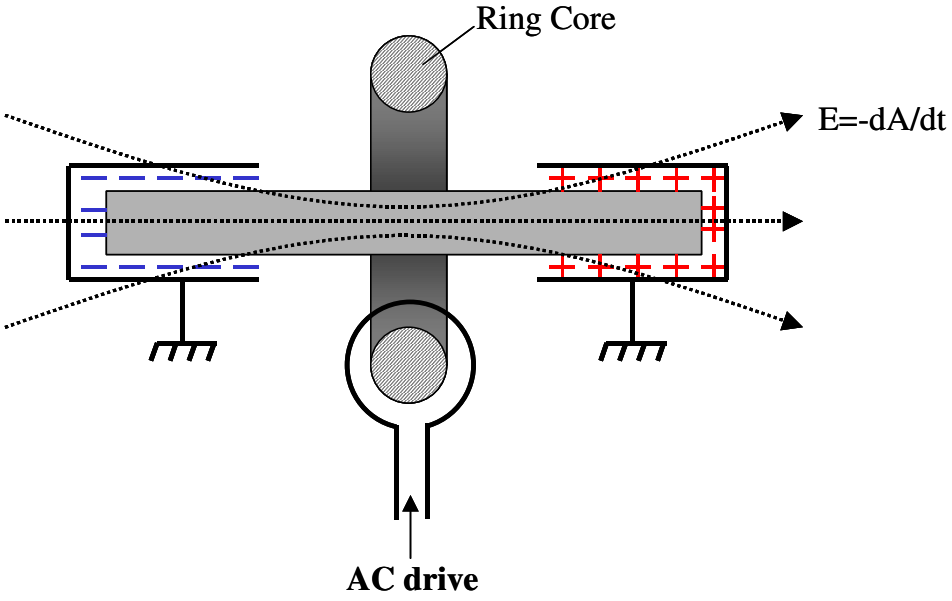
An Interesting Experiment using Spin Polarized Electrons

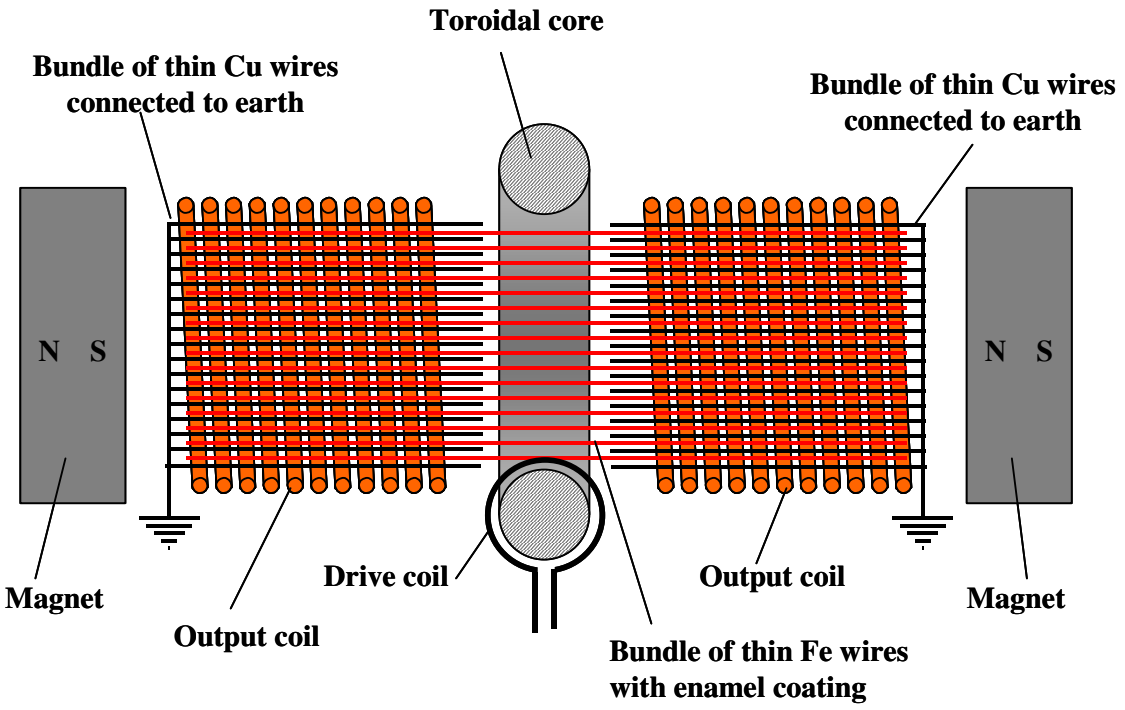
Here is an interesting experiment using magnetized Fe as a source of spin polarized conduction electrons. The following figure shows a conductive rod within a toroidal core that has an alternating drive. Conduction electrons in the rod get driven by the electric field to polarize the rod electrically, one end being negatively charged having a surfeit of electrons while the other end is positively charged having electron deficit.



The quantity of the end charges can be increased by capacitively loading the rod, e.g. by having each end covered within an earthed shroud.



The next figure shows the complete experiment. A large number of thin Fe rods or wires are used so as to maximise the surface areas carrying the charge. The capacitive loading is increased by having a thin dielectric coating and with interleaved Cu rods or wires that are all connected to ground. Permanent magnets placed at each end magnetize the rods so that the conduction electrons become spin polarized. Two output coils wound around the Fe bundle obtain induced voltages from the changing magnetization as spin polarized electrons are carried back and forth along the rods, as one end loses magnetization the other end gains. These two coils are connected in series to a load resistor (not shown).



Whether or not this scheme offers overunity potential remains to be seen.