

ECE 520.219, Fields, Matter, and Waves,
Fall 2009

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Suggested topics for the course project/presentation

- (1) CCD cameras
- (2) Van de-Graaff generator
- (3) Use of electrostatics in copy-machines
- (4) Saint Elmo's light and electrical discharges in high-voltage electrical lines
- (5) Storms and clouds as huge generators of static electricity
- (6) Electrical storms in the earth startosphere and radio-statics
- (7) Hydrogen atom: centrifugal forces against electrical attraction
- (8) Charged particles in a solar wind
- (9) Is our planet electrically charged? the same about Moon?
- (10) The Earth as a huge magnetic dipole and the Earth magneto-dynamo
- (11) The story of a (non-existing?) magnetic monopole
- (12) Electrical forces in the hierarchy of other forces (gravitational, nuclear, etc.)
- (13) Coulomb's explosion in nano-clusters and electrical shock-waves