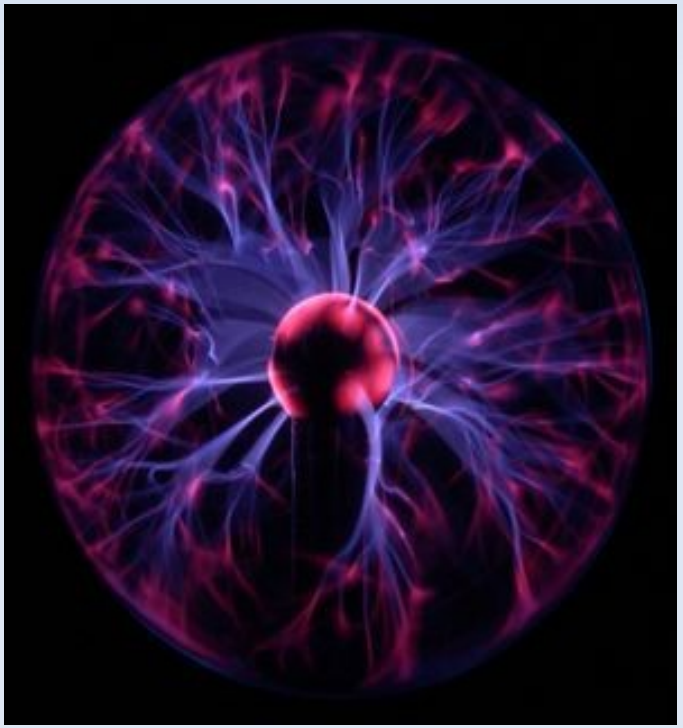
PLASMA HAS POWER!

- ESTER KERZNER
- IPC HONORS
- MRS. K.

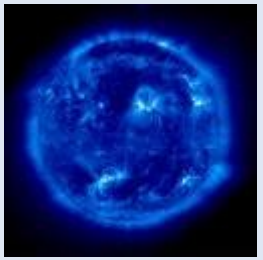


INTRODUCTION TO THE STATES OF MATTER

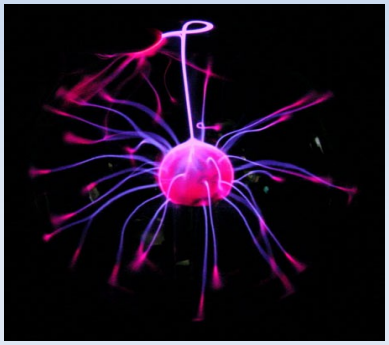
- Matter comes in four* states that are distinguished by the strength of the bonds holding the molecules of the matter together.
- They are solid, liquid, gas, and plasma.
- *Some scientists say that there are more than four states of matter.

CHARACTERISTICS OF PLASMA

- Plasma is usually a conductive assembly of charged particles, neutrals and fields that exhibit collective effects.
- Plasma may also carry electrical currents and generate magnetic fields.
- Plasma temperatures range from relatively cool to very hot.
- Plasma densities range from tenuous to dense.



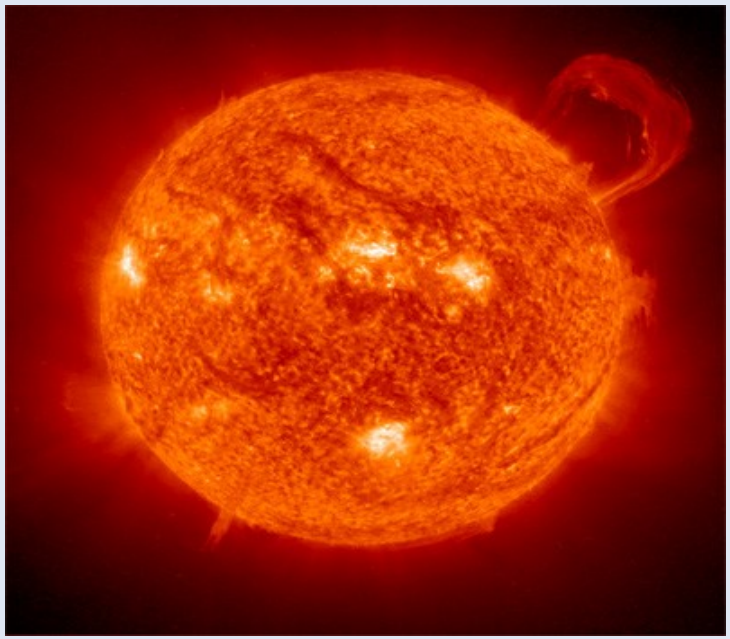
INTERESTING FACTS ABOUT PLASMA



- The plasma physics includes basic physics research, industrial plasma processing, controlled fusion experiments, and astrophysical and geophysical plasma research.
- It is estimated that roughly 99.5% of the matter in the universe is in the plasma state.
- Sir William Crookes, an English physicist, identified plasma as the fourth state of matter in 1879.

UNIQUENESS OF PLASMA

- Plasma is the most common form of matter.
- Ordinary solids, liquids, and gases are all electrically neutral and too cool or dense to be identified as plasma.



EVERYDAY APPLICATIONS OF PLASMA

- New manufacturing techniques
- Consumer products
- The prospect of abundant energy
- More efficient lighting
- Surface cleaning
- Waste removal

FUTURE APPLICATIONS OF PLASMA

- Nuclear fusion
- Prosthetic body parts
- Production of artificial skin grafts
- Sterilization of food surfaces and medical instruments.

EXAMPLES OF PLASMA

- Interplanetary medium
- Stellar Interiors
- Ionosphere
- Electrons in a metal
- The gas in an electrical arc
- Lightning

UNIVERSITIES/RESEARCH CENTERS WHERE PLASMA RESEARCH IS CONDUCTED IN THE U.S.A.

- The University of Illinois
- St. John's University
- Center for Plasma Material Interactions
- University of Rochester

BIBLIOGRAPHY

- http://www.plasmas.org/
- http://en.wikipedia.org/wiki/Plasma_(physics
- http://www.physics.byu.edu/research/plasma
- http://www.cartage.org.lb/en/themes/Science