CLAIMS

What is claimed is:

1. A capacitor comprising:

a first conductive electrode having a first outer side and an opposite first inner side;

a first nonconductive coating on said first inner side of said first conductive electrode;

a dielectric material on said first nonconductive coating, said first nonconductive coating being disposed between said first conductive electrode and said dielectric material;

a second conductive electrode adjacent to said dielectric material, said dielectric material being disposed between said second conductive electrode and said first nonconductive coating; and

said capacitor having an overall thickness from first conductive electrode to second conductive electrode, and said first nonconductive coating having a thickness that is less than ten percent of said overall thickness.

2. A capacitor according to claim 1, further comprising:

a second nonconductive coating on said second conductive electrode and being disposed between said second conductive electrode and said dielectric material, said second nonconductive coating having a thickness that is less than ten percent of said overall thickness.

3. A capacitor according to claim 1, said dielectric material being a variable viscosity dielectric material, said variable viscosity exhibiting a change in viscosity in response to an external stimulus.

4. A capacitor according to claim 3, said external stimulus comprising a stimulus from the group consisting of a force, a pressure, a shear stress, a normal stress, heat, a magnetic field, and/or an electric field.

5. A capacitor according to claim 3, said dielectric material increasing in viscosity as the external stimulus is applied and decreasing in viscosity as the external stimulus is removed.

6. A capacitor according to claim 3, said dielectric material decreasing in viscosity as the external stimulus is applied and increasing in viscosity as the external stimulus is removed.

7. A capacitor according to claim 3, said dielectric material releasing energy at a rate, said rate increasing as viscosity of the dielectric material decreases.

8. A capacitor according to claim 3, said dielectric material releasing energy at a rate, said rate decreasing as viscosity of the dielectric material increases.

9. A capacitor according to claim 3, said dielectric material receiving charge at a rate, said rate increasing as viscosity of the dielectric material decreases.

10. A capacitor according to claim 3, said dielectric material receiving charge at a rate, said rate decreasing as viscosity of the dielectric material increases.

11. A capacitor according to claim 1, said first nonconductive coating comprising a condensed and polymerized xylylene monomer.

12. A capacitor according to claim 1, said first nonconductive coating comprising a polymer from the group consisting of parylene polymer and Puralene polymer.

13. A capacitor according to claim 1, said first nonconductive coating comprising a metal oxide.

14. A capacitor according to claim 1, said dielectric material comprising a viscosity reducing agent, and said dielectric material having a viscosity, said dielectric material exhibiting an increase in viscosity from a first viscosity to a second viscosity in response to an external stimulus, and exhibiting a decrease in viscosity from the second viscosity to the first viscosity upon removal of the external stimulus.

15. A capacitor according to claim 14, said external stimulus comprising a mechanism from the group consisting of a controllable heat source, a controllable cooling source, a controllable magnetic field generator, a controllable electric field generator, a controllable force generator, a controllable pressure generator, a controllable shear stress generator.

16. A capacitor according to claim 1, said dielectric material comprising a viscosity increasing agent, and said dielectric material having a viscosity, said dielectric material exhibiting a decrease in viscosity from a first viscosity to a second viscosity in response to an external stimulus, and exhibiting an increase in viscosity from the second viscosity to the first viscosity upon removal of the external stimulus.

17. A capacitor according to claim 16, said external stimulus comprising a mechanism from the group consisting of a controllable heat source, a controllable cooling source, a controllable magnetic field generator, a controllable electric field generator, a controllable force generator, a controllable pressure generator, a controllable shear stress generator.

18. A capacitor according to claim 1, said dielectric material comprising a dielectric substance from the group consisting of a conductive polymer, a nonconductive polymer, an inorganic metal oxide, a metal oxide mixture, a biopolymers.

~~18~~19. A capacitor according to claim 1, said dielectric material comprising an electro-rheological dielectric substance.

~~19~~20. A capacitor according to claim 1, said dielectric material comprising a magneto-rheological dielectric substance.

~~20~~21. A capacitor according to claim 1, said dielectric material comprising a Bingham plastic dielectric substance.