the voltage at these points of concentrations increases, over and above the voltage at which the capacitor is charged. This is because as the electrostatic field concentration increases, its energy increases and as its energy increases the potential difference between the positively charged and negative plates at the points of electrostatic field concentrations. In addition an electrostatic field is attracted to sharp points or edges and it is to these points or edges that the points or edges of localized electrostatic field concentrations are attracted, having the effect of further increasing the potential difference of the localized electrostatic field concentrations between the positive and negative plates. And when the capacitor is charged this increased potential difference causes it to reach the breakdown potential difference voltage of the dielectric material separating the charging and negative plates. This causes the breakdown the dielectric material, causing the charge to be discharge to the negative plate of the capacitor as an electric current at a low charging voltage, thereby limiting the voltage at which a capacitor can store electric energy. The situation is exacerbated when the storage capacity of the capacitor is increased by increasing the dielectric constant in high energy storage capacitors. It is perhaps the reason why the dielectric will breakdown at a lower AC voltage than DC voltage because it's peaked characteristic enhances electrostatic field concentrations, enabling capacitors to transmit an AC current. By eliminating these points of electrostatic field concentrations by controlling the electrostatic field to eliminate and reduce the effects of points and edges of electrostatic field attraction, AC currents can be blocked and capacitors of higher charging voltages, hence higher energy storage can be achieved.

According to a first aspect of the invention there is provided an interactive electrostatic field high energy storage AC blocking capacitor comprising:

- at least one active interactive electrostatic field charging plate formed from electric conducting material into at least two longitudinal parallel partially separated sectioned closed continuous electrical loops,
- one of the loops being provided with at least one connector as means to connect it to a power source and

- the loops being electrically connected to each other remote from the connector,
- at least one negative plate capacitively coupled to the active interactive field charging plate and provided with at least one connector as means for connection to an electric circuit and
- dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that charging current flowing in the opposite directions to each other in two longitudinal parallel partially separated loops of the charging plate creates opposing electrostatic fields in the two loops, whereby opposing electrostatic fields in the two loops interact with each other and neutralise each other eliminating, electrostatic field concentrations, preventing opposing electrostatic fields from being induced into the negative plate through the separating dielectric material.

According to a second aspect of the invention there is provided an interactive electrostatic field high energy storage AC blocking capacitor comprising:

- at least one passive interactive electrostatic field charging plate formed from electric conducting material into at least two longitudinal parallel separate sectioned closed continuous electrical loops,
- one of the loops being provided with at least one connector as means to connect it to a power source and
- and the loops being electrically separate from each other,
- at least one negative plate capacitively couple to the passive interactive field charging plate and at least one connector as means for connection to an electric circuit and
- dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that charging current flowing in two longitudinal parallel separated loops of the charging plate induces generated electrostatic field into the unconnected closed continuous loop section and creates opposing electrostatic fields in the two loops, whereby opposing electrostatic fields in the two loops interact with each other and neutralise each other, eliminating electrostatic field concentrations,

preventing opposing electrostatic fields from being induced into the negative plate through the separating dielectric material.

According to a third aspect of the invention there is provided an interactive electrostatic field high energy storage AC blocking capacitor comprising;

- at least one charging plate in the form of a folded edge interactive electrostatic field plate formed from a closed continuous electrical loop whereby the edges along the length of the closed continuous electrical loop are folded to be opposite each other:
- the folded edge charging plate being provided with at least one connector as means to connect the folded edge interactive field charging plate to a power source and
- at least one negative plate capacitively couple by a dielectric material to the folded edge charging plate and provided with at least one connector as means for connection to an electric circuit and
- dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that when the charging plate is charged the concentrated electrostatic field at the folded edges of the closed continuous electrical loop will be in opposition to each other, interacting with each other, neutralise each other eliminating, electrostatic field concentrations, causing the electrostatic field to be evenly distributed around the charging plate, within the dielectric material of the capacitively coupling dielectric material and preventing each opposing electrostatic field from being induced into the negative plate through the capacitive coupling dielectric material enabling an increase of the charging voltage.

~~The present invention is an interactive electrostatic field high energy storage AC blocking capacitor in which a first a~~ A first embodiment of the invention comprises a charging plate in the form of an active interactive electrostatic field charging plate being formed from electric conducting material into a three longitudinal parallel partially separated sectioned closed continuous electrical loop, comprising a mid-section and two outer sections, one at each side of the mid-section. The charging plate in the form of an active interactive electrostatic field charging plate is capacitively coupled to a negative plate by a dielectric material and the negative plate is provided with a connector for connection to an electric circuit. The midsection is provided with a connector as means to connect it to a power source and the two outer section being electrically connected to the mid-section is such a way as to have charging current flowing in the opposite direction to the mid-section. When the active

Claims

1. An interactive electrostatic field high energy storage AC blocking capacitor comprising;

at least one charging plate in the form of an active interactive electrostatic field charging plate and the active interactive electrostatic field charging being formed from electric conducting material into at least two longitudinal parallel partially separated sectioned closed continuous electrical loop

and one of the at least two longitudinal parallel partially separated sectioned closed continuous electrical loop is provided with at least one connector as means to connect it to a power source

and the charging plate in the form of an active interactive electrostatic field charging plate is provided at least one negative plate capacitively coupled to the active interactive field charging plate and the at least one negative plate provided with at least one connector as means to for connection to an electric circuit

and the at least two longitudinal parallel partially separated sectioned closed continuous electrical loop sections being electrically connected to each other is such a way so that when the active interactive electrostatic field charging plate is connected to a power source and charged,

and the at least two longitudinal parallel partially separated section is the means by which the charging current will flow in the opposite directions to each other, creating opposing electrostatic fields in the at least two longitudinal parallel partially separated closed continuous electrical loops, ensuring that when the charging plate in the form of an active interactive electrostatic field charging plate is charged the opposing electrostatic fields in the at least two longitudinal parallel partially separated closed continuous electrical loops interact with each other

and neutralize each other eliminating, electrostatic field concentrations, causing the electrostatic field to be evenly distributed around the charging plate in the form of an active - interactive electrostatic field charging plate, within the dielectric material, preventing each opposing electrostatic field from being induced into the negative plate through the separating dielectric material, enabling an increase of the charging voltage, thereby increasing the energy storage capacity and blocking AC current.

2. An interactive electrostatic field high energy storage AC blocking capacitor comprising;

at least one charging plate in the form of a passive interactive electrostatic field charging plate and the passive interactive electrostatic field plate being formed from electric conducting material into at least two longitudinal parallel separate sectioned closed continuous electrical loop

and one of the at least two longitudinal parallel separated sectioned closed continuous electrical loop is provided with at least one connector as means to connect it to a power source

and the passive interactive electrostatic field charging plate is provided at least one negative plate capacitively couple to the passive interactive field charging plate and the at least one negative plate provided with at least one connector as means to for connection to an electric circuit

and the at least two longitudinal parallel separated sectioned closed continuous electrical loop sections being electrically separate from each other and when charging current flowing in electrically connected closed continuous electrical loop section the generated electrostatic field will be induced into the unconnected closed continuous loop section, creating opposing electrostatic fields in the at least two longitudinal parallel partially separated closed continuous electrical loops, ensuring that when the passive interactive electrostatic field charging plate is charged the opposing electrostatic fields in the at least two longitudinal parallel separated closed continuous electrical loops interact with each other

and neutralize each other, eliminating electrostatic field concentrations, causing the electrostatic field to be evenly distributed around the passive interactive electrostatic field charging plate, within the dielectric material, preventing each opposing electrostatic field from being induced into the negative plate through the separating dielectric material, enabling an increase of the charging voltage, thereby increasing the energy storage capacity and blocking AC current.

3. An interactive electrostatic field high energy storage AC blocking capacitor comprising;

at least one charging plate in the form of a folded edge interactive electrostatic field plate

being formed from a closed continuous electrical loop whereby the edges along the length of the closed continuous electrical loop are folded and being in opposition with each other

and the folded edge interactive electrostatic field charging plate is provided with at least one connector as means to connect the folded edge interactive field charging plate to a power source

and the charging plate in the form of an edge interactive electrostatic field charging plate is provided at least one negative plate capacitively couple by a dielectric material to the edge interactive field charging plate and the negative plate provided with at least one connector as means to for connection to an electric circuit

and when the charging plate is charged the concentrated electrostatic field at the folded edges of the closed continuous electrical loop will be in opposition to each other, interacting with each other, neutralize each other eliminating, electrostatic field concentrations, causing the electrostatic field to be evenly distributed around the charging plate, within the dielectric material of the capacitively coupling dielectric material

and preventing each opposing electrostatic field from being induced into the negative plate through the capacitive coupling dielectric material enabling an increase of the charging voltage, thereby increasing the energy storage capacity and blocking AC current.

4. An interactive electrostatic field High energy storage AC blocking capacitor as in claim 1 wherein;
the at least two longitudinal parallel partially separated sectioned closed continuous electrical loops are the means by which opposing charging current flow generates opposing electrostatic fields to interact with each other and neutralize each other, thereby blocking an AC current.

5. An interactive electrostatic field high energy storage AC blocking capacitor as in claim 2 wherein;
one of the at least two longitudinal parallel separated sectioned closed continuous electrical loop is the means by which a current is induced in the other at least two longitudinal parallel section generating opposing electrostatic fields to interact with each other and neutralize each other, thereby blocking an AC current.

6. An interactive electrostatic field high energy storage AC blocking capacitor as in claim 3 wherein;
the folded edges along the length of the closed continuous electrical are folded and being in opposition with each other is the means by which the opposing concentrated electrostatic fields to interact with each other and neutralize each other, thereby blocking an AC current.

7. An interactive electrostatic field high energy storage AC blocking capacitor as in claim 1, claim 2 and claim 3 wherein;
the negative plate is configured in such a way to ensure its edges are remote from the edges of the charging plate, ensuring that all paths for any residual charge concentrations on the charging plate to the negative plate are eliminated, preventing dielectric breakdown at high charging voltage.

CLAIMS:

1. An interactive electrostatic field high energy storage AC blocking capacitor comprising:

at least one active interactive electrostatic field charging plate formed from electric conducting material into at least two longitudinal parallel partially separated sectioned closed continuous electrical loops,

one of the loops being provided with at least one connector as means to connect it to a power source and

the loops being electrically connected to each other remote from the connector,

at least one negative plate capacitively coupled to the active interactive field charging plate and provided with at least one connector as means for connection to an electric circuit and

dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that charging current flowing in the opposite directions to each other in two longitudinal parallel partially separated loops of the charging plate creates opposing electrostatic fields in the two loops, whereby opposing electrostatic fields in the two loops interact with each other and neutralise each other eliminating, electrostatic field concentrations, preventing opposing electrostatic fields from being induced into the negative plate through the separating dielectric material.

2. An interactive electrostatic field high energy storage AC blocking capacitor comprising:

at least one passive interactive electrostatic field charging plate formed from electric conducting material into at least two longitudinal parallel separate sectioned closed continuous electrical loops,

one of the loops being provided with at least one connector as means to connect it to a power source and

and the loops being electrically separate from each other,

at least one negative plate capacitively couple to the passive interactive field charging plate and at least one connector as means for connection to an electric circuit and

dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that charging current flowing in two longitudinal parallel separated loops of the charging plate induces generated electrostatic field into the unconnected closed continuous loop section and creates opposing electrostatic fields in the two loops, whereby opposing electrostatic fields in the two loops interact with each other and neutralise each other, eliminating electrostatic field concentrations, preventing opposing electrostatic fields from being induced into the negative plate through the separating dielectric material.

3. A capacitor as claimed in claim 1 or claim 2, wherein the loops each comprise a near portion closer to the negative plate and a further portion further from the negative plate, each portion being parallel in its extent in two dimensions the negative plate.

4. A capacitor as claimed in claim 3, wherein the loops are longer in continuous loop extent their extent in the two dimensions orthogonal to their loop extent.

5. A capacitor as claimed in any preceding claim, wherein the charging plate has three parallel loops, with the charging plates connector connected to the central loop.

6. An interactive electrostatic field high energy storage AC blocking capacitor comprising;

at least one charging plate in the form of a folded edge interactive electrostatic field plate formed from a closed continuous electrical loop whereby the edges along the length of the closed continuous electrical loop are folded to be opposite each other:

the folded edge charging plate being provided with at least one connector as means to connect the folded edge interactive field charging plate to a power source and

at least one negative plate capacitively couple by a dielectric material to the folded edge charging plate and provided with at least one connector as means for connection to an electric circuit and

dielectric material within the loops and between the charging plate and the negative plate;

the arrangement being such that when the charging plate is charged the concentrated electrostatic field at the folded edges of the closed continuous electrical loop will be in opposition to each other, interacting with each other, neutralise each other

eliminating, electrostatic field concentrations, causing the electrostatic field to be evenly distributed around the charging plate, within the dielectric material of the capacitively coupling dielectric material and preventing each opposing electrostatic field from being induced into the negative plate through the capacitive coupling dielectric material enabling an increase of the charging voltage.

7. An interactive electrostatic field high energy storage AC blocking capacitor as in any preceding claim, wherein the negative plate is configured in such a way to ensure its edges are remote from the edges of the charging plate, ensuring that all paths for any residual charge concentrations on the charging plate to the negative plate are eliminated, preventing dielectric breakdown at high charging voltage.