



Vortex Cylinder Concept Example:

The pictures above show how the vortex cylinder concept works in large scale. The large cylinder on the left has golf ball size, black magnetic spheres placed around the outside circumference of a plastic cylinder which is taking the place of the small quartz glass cylinder we plan to use in our DEC power conversion application.

The idea is to verify that atoms of a given size, in this case these magnetic spheres, represent that atoms will space evenly around a given circumference of a cylinder. As you can see these magnetic spheres do indeed make solid contact with each other around this large diameter plastic cylinder example. As long as the correct diameter cylinder is selected for a given sphere size, the spheres (atoms) will space evenly around the cylinder's outside circumference. YBCO thin films will be used to coat small diameter glass cylinders with the same results. This basic rule will also apply to any cylinder diameter.

As you can see in the picture the magnetic spheres are in complete contact with their adjacent sphere, providing a complete 360 degree circle around the cylinder. Now consider that the lowest energy level is when these spheres shift 180 degrees allowing the next row to fill the gap between two spheres, providing the maximum space compression between two atoms or group. This slight shift is carried out every other layer or about 8 times in the example shown.

If a small diameter cylinder coated with thin films of YBCO was manufactured it would take millions of atoms and the crystal lattice would twist many 1000's of times over its length. This twisting of the atomic lattice is what we're trying to do.

In the example above, we have 8 rows of magnetic spheres over the length of the cylinder. Even a short cylinder covered with YBCO thin films would contain millions of atoms providing many complete twists over the length of the cylinder.

It is known that an atom has an area of influence that extends past its physical boundaries. This influence will then extend into the center of the cylinder providing a natural twist to the volume of space inside of the cylinder due to the cylinder being covered with millions of atoms which make up the YBCO crystal lattice on the outside of the cylinder.

We see in the next picture to the right the “Vortex Cylinder” example is used to control the static flux emanating off the pole of the permanent magnet. Due to the atomic lattice structure found on the outside of the glass cylinder, the static flux is spun up and compressed due to the forces exerted by the free flowing electrons moving on the surface of the vortex cylinder. These forces are only present when the YBCO crystal lattice is in the superconducting state. Static flux entering the vortex cylinder at one end is compressed and spun up i.e. twisted onto its self making a string of static flux which passes through the center of the vortex tube making no contact with the YBCO thin film coating on the surface of the outside surface of the vortex cylinder. Therefore, the static flux can be of a higher flux density than normal Type II material could normally handle. The vortex cylinder provides a high performance inductance path or a low energy path to conduct static magnetic flux with super high efficiency.

To the right, we see an example of a water vortex and how water spins up into a small tube extending to the bottom of the tube. Note this water vortex is getting smaller as it moves down the tube and never comes into contact with the inside of the cylinder. The same basic function or principles takes place when a cylinder is coated with YBCO thin film and forced into the superconducting state. Static flux emanating off the poles of the permanent magnetic cause a counter magnetic force on the surface of the vortex tube causing a torque on the inside of the vortex cylinder to spin up the static flux. The water vortex examples show this to be true, since static flux is known to be invisible and that is why we use it as an example of the physics.

Using these basic principles found inherent to vortex cylinders coated with YBCO thin films, we now have the means to control the static flux magnetic path. The process of flux modulation or control is done with the injection of photons. Coherent photons are used to drive the YBCO thin films in and out of the superconductor state, in effect destroying the low energy flux path causing the low energy flux path to be destroyed forcing the static flux to take a second path. When this happens we can produce electricity without using a moving armature improving the conversion of electrical energy up to the unheard of efficiency of 97%.