Fountain Giving Life

Dimensions for Fabrication

and

Wiring Diagrams

Safe Operating Instructions

Do not operate for more than 4 hours per month, otherwise severe weather and flooding may result. The instrument must be grounded into a flowing river to function. Operate within seven days after the new moon. Do not touch the instrument while it is running. Stand at least 25 feet away. If you get too close, or touch it while it is energized, you may become overstimulated, and have trouble sleeping.

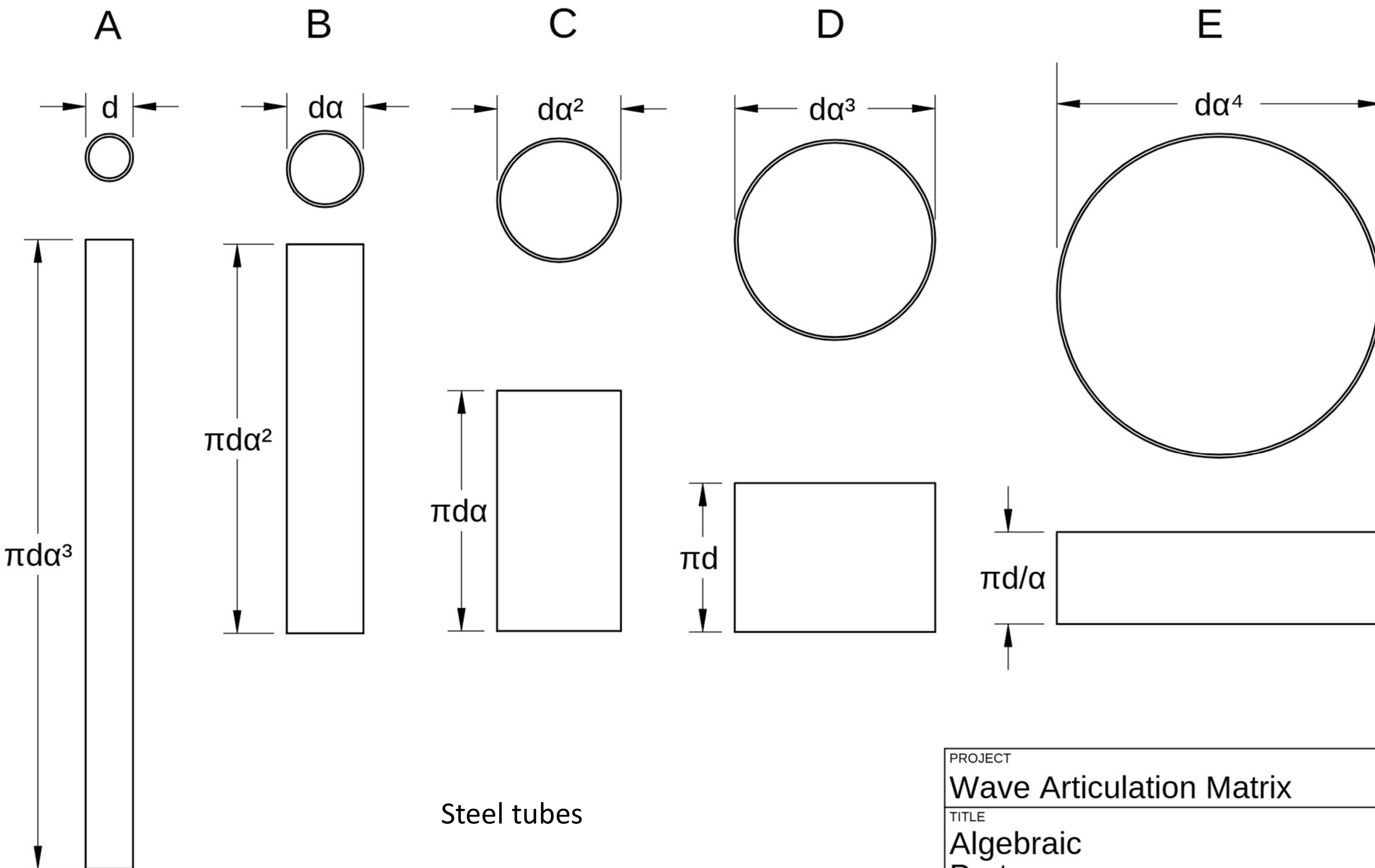
This instrument is composed of five concentric steel tubes, surrounded by a hollow ring.

The center tube is connected to an electric circuit, which rapidly varies the amount of charge on the tube. The tube is at all times charged negative. The electric circuit is grounded into a flowing river.

The tubes sit on a plastic jig, which holds them in place. The ring sits on blocks, which hold it in position.

The hollow ring is made from a length of steel tube, rolled into a circle, and the ends welded together. It is covered with a layer of cellophane (or other dielectric material) then a layer of copper foil.

Cylinder Dimensions, Algebraic

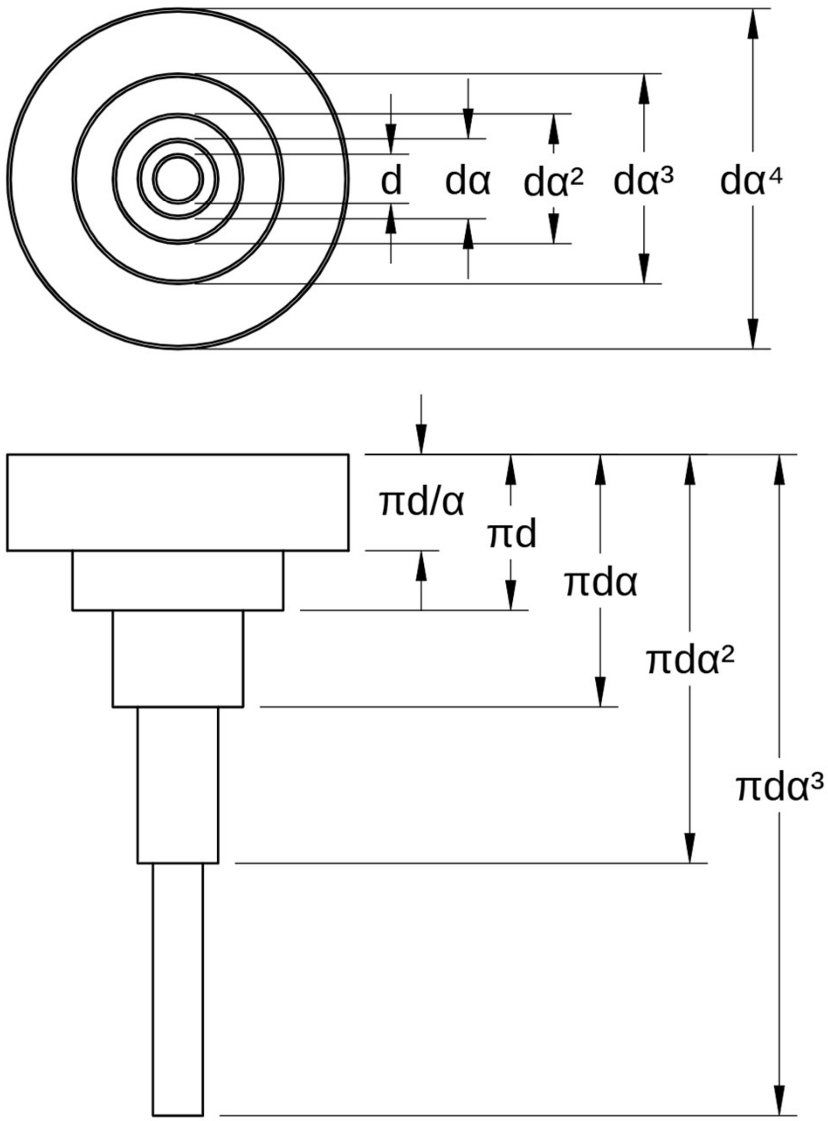


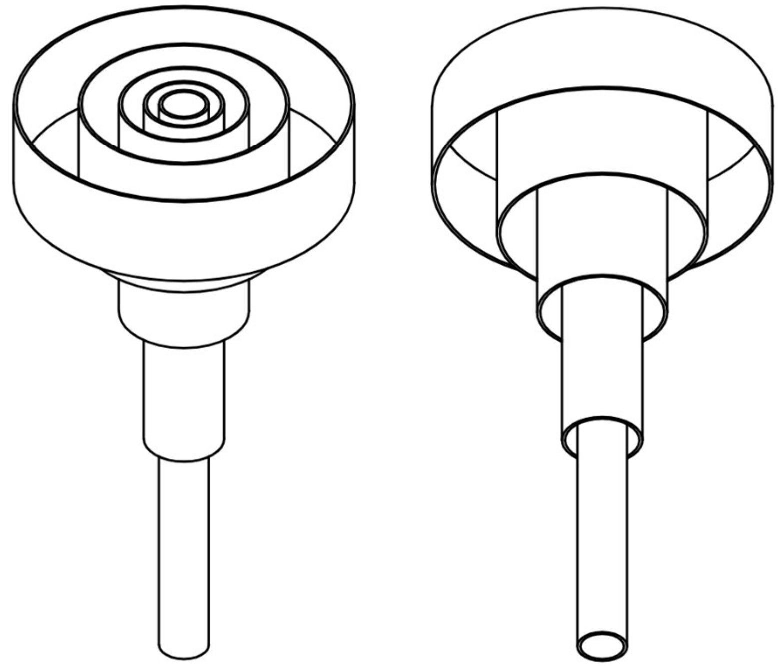
PROJECT
Wave Articulation Matrix

TITLE
Algebraic
Parts

SCALE

SHEET 1/3





PROJECT

Wave Articulation Matrix

TITLE

Algebraic
Assembled

SCALE

SHEET 2/3

d = diameter of innermost cylinder

$\alpha = \frac{1+\sqrt{5}}{2}$ a = 1.61803 "Extreme and Mean Ratio"

$\pi = 3.14159$

#	Diameter	Length	Circumference
A	d	$\pi d\alpha^3$	πd
B	$d\alpha$	$\pi d\alpha^2$	$\pi d\alpha$
C	$d\alpha^2$	$\pi d\alpha$	$\pi d\alpha^2$
D	$d\alpha^3$	πd	$\pi d\alpha^3$
E	$d\alpha^4$	$\pi d/\alpha$	$\pi d\alpha^4$

Geometric Sequence

Euclid of Alexandria
<u>The Elements of Geometry</u>
Book 6, Definition 3
Extreme and Mean Ratio
Circa 300 BC

PROJECT
Wave Articulation Matrix

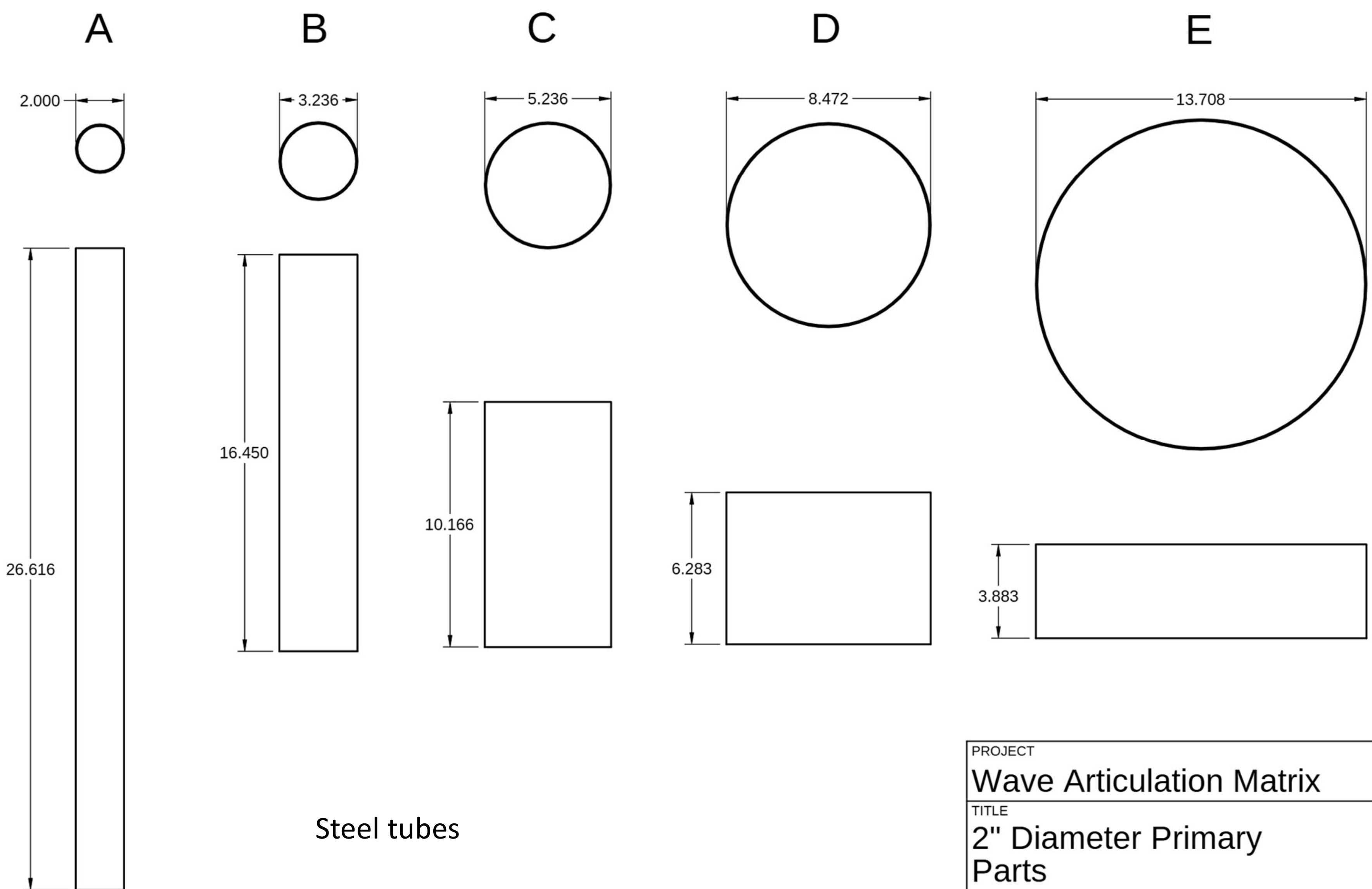
TITLE
Algebraic Table

SCALE

SHEET 3/3

Cylinder Dimensions, Decimal

2 inch Diameter Cathode



Steel tubes

All Units in Inches

PROJECT

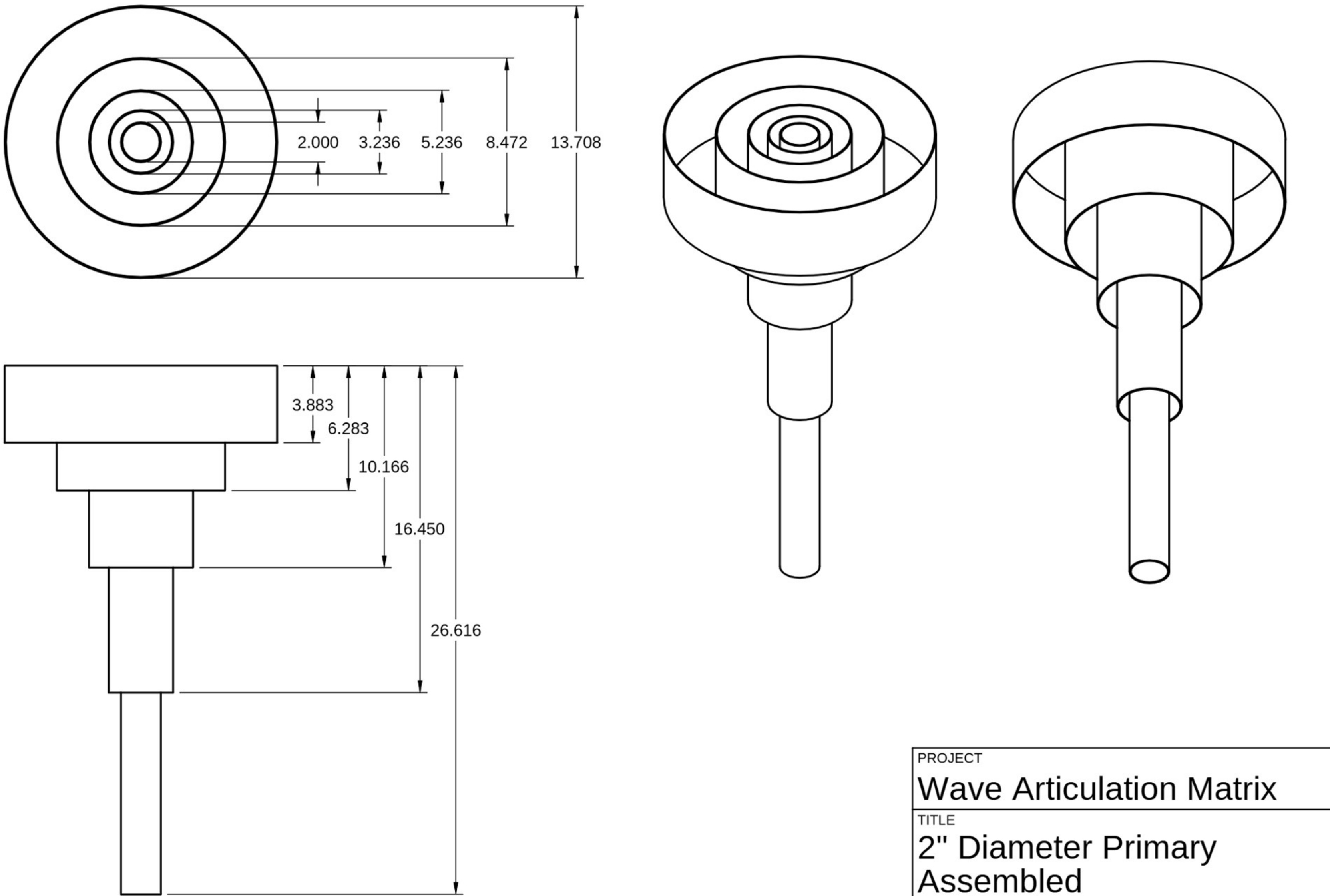
Wave Articulation Matrix

TITLE

2" Diameter Primary Parts

SCALE 1:4

SHEET 1/3



All Units in Inches

PROJECT	
Wave Articulation Matrix	
TITLE	
2" Diameter Primary Assembled	
SCALE 1:8	SHEET 2/3

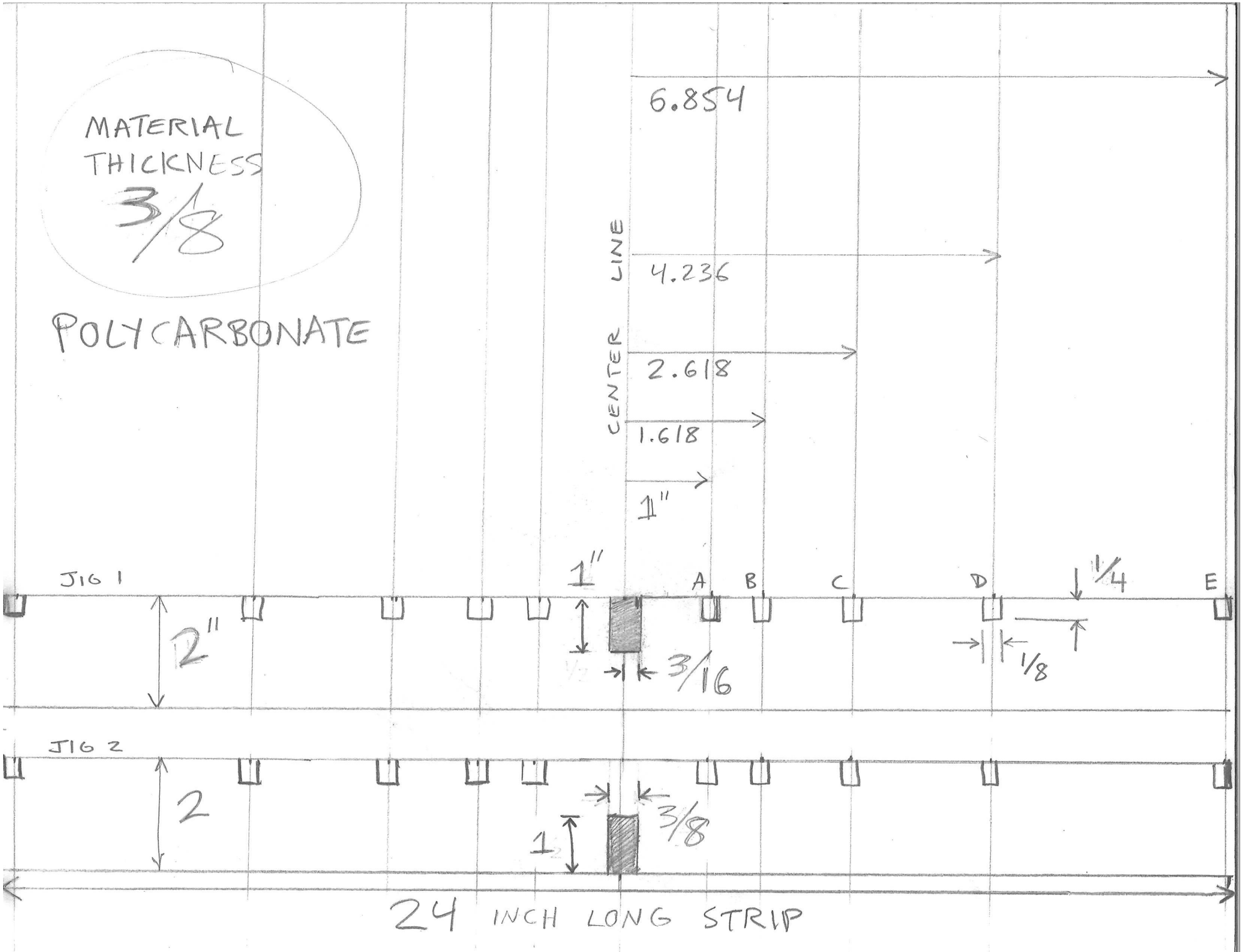
#	Diameter	Length	Circumference
A	2.000	26.616	6.283
B	3.236	16.450	10.166
C	5.236	10.166	16.450
D	8.472	6.283	26.616
E	13.708	3.883	43.066

16 gauge mild steel.
.0625 inch low carbon steel.
Seam weld.

All Units in Inches

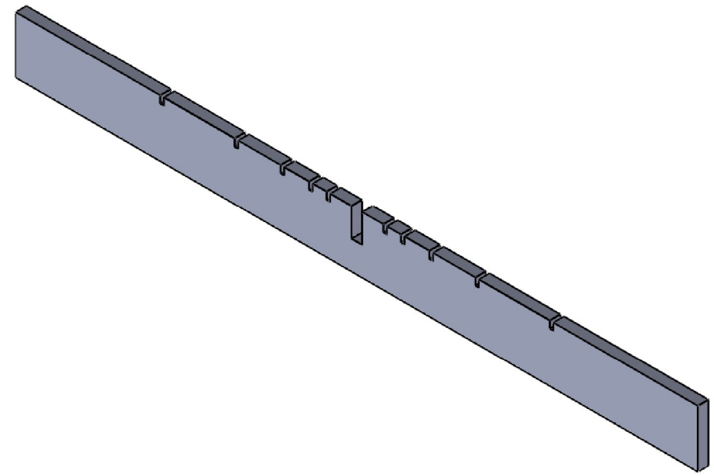
PROJECT Wave Articulation Matrix	
TITLE 2" Diameter Primary Table	
SCALE	SHEET 3/3

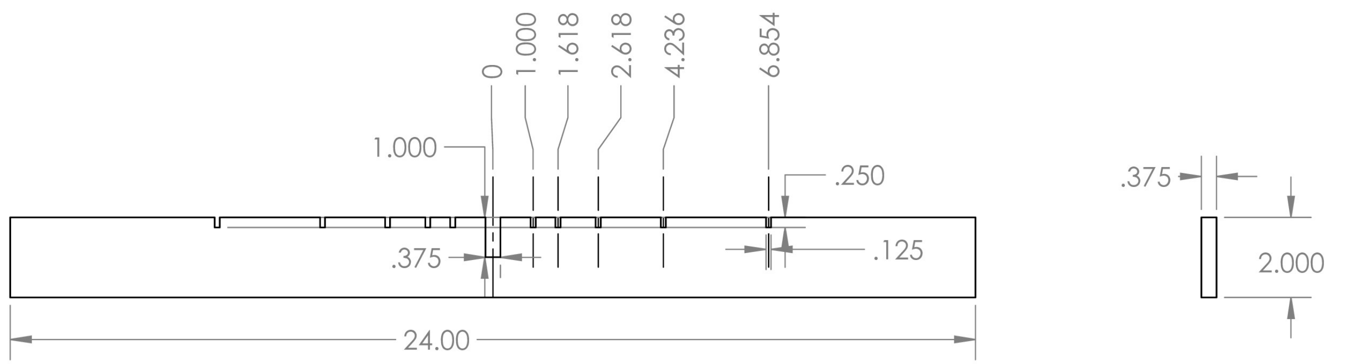
Jig to Hold Steel Cylinders


MATERIAL
THICKNESS
3/8
POLYCARBONATE
CENTER LINE
6.854
4.236
2.618
1.618
1"
JIG 1
1"
A
B
C
D
1/4
E
2"
3/16
1/8
JIG 2
2
3/8
1
24 INCH LONG STRIP

2 1

B B





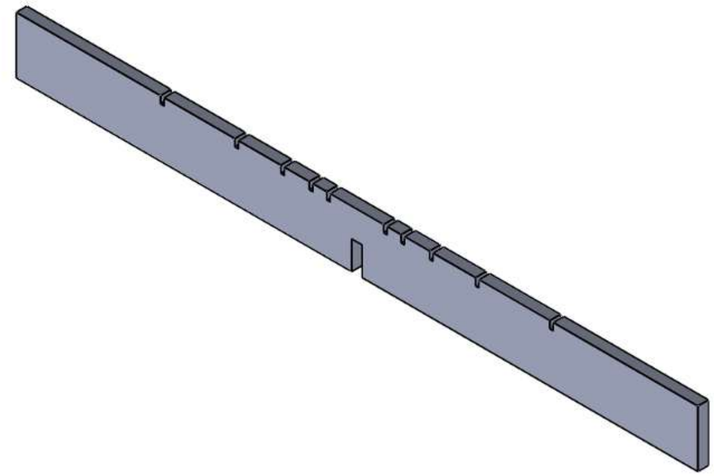
A A

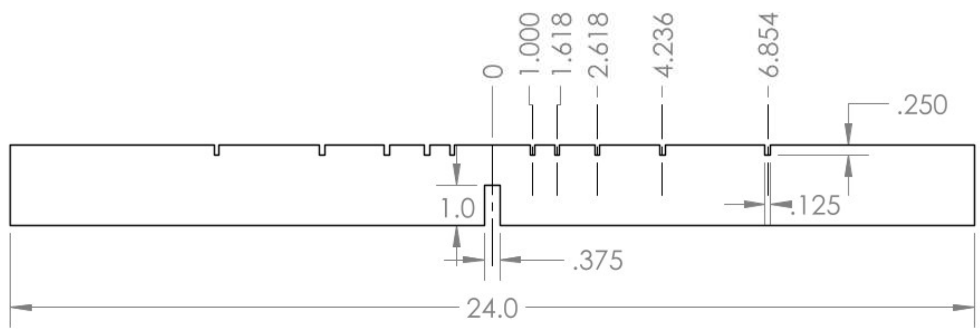
UNLESS OTHERWISE SPECIFIED:		NAME	DATE	ALPHA MACHINE AND FAB.
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	JL		TITLE:
	CHECKED			JIG1
	ENG APPR.			
	MFG APPR.			
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			
MATERIAL PLASTIC	COMMENTS:			SIZE A DWG. NO. ALPM-001 REV A1
FINISH				SCALE: 1:4 SHEET 1 OF 1

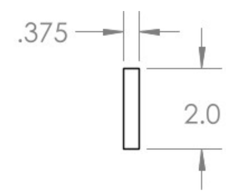
2 1

2 1

B B



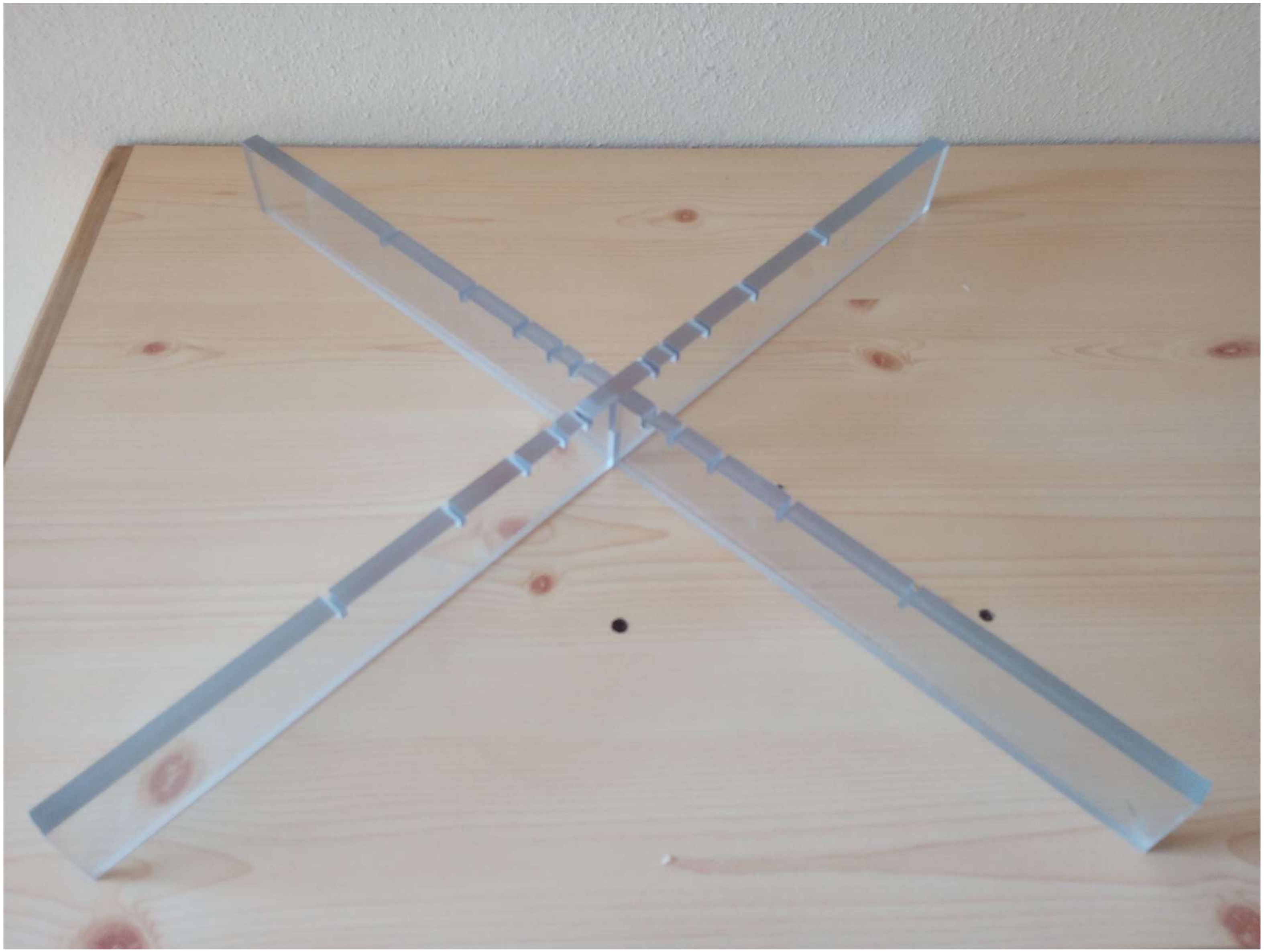




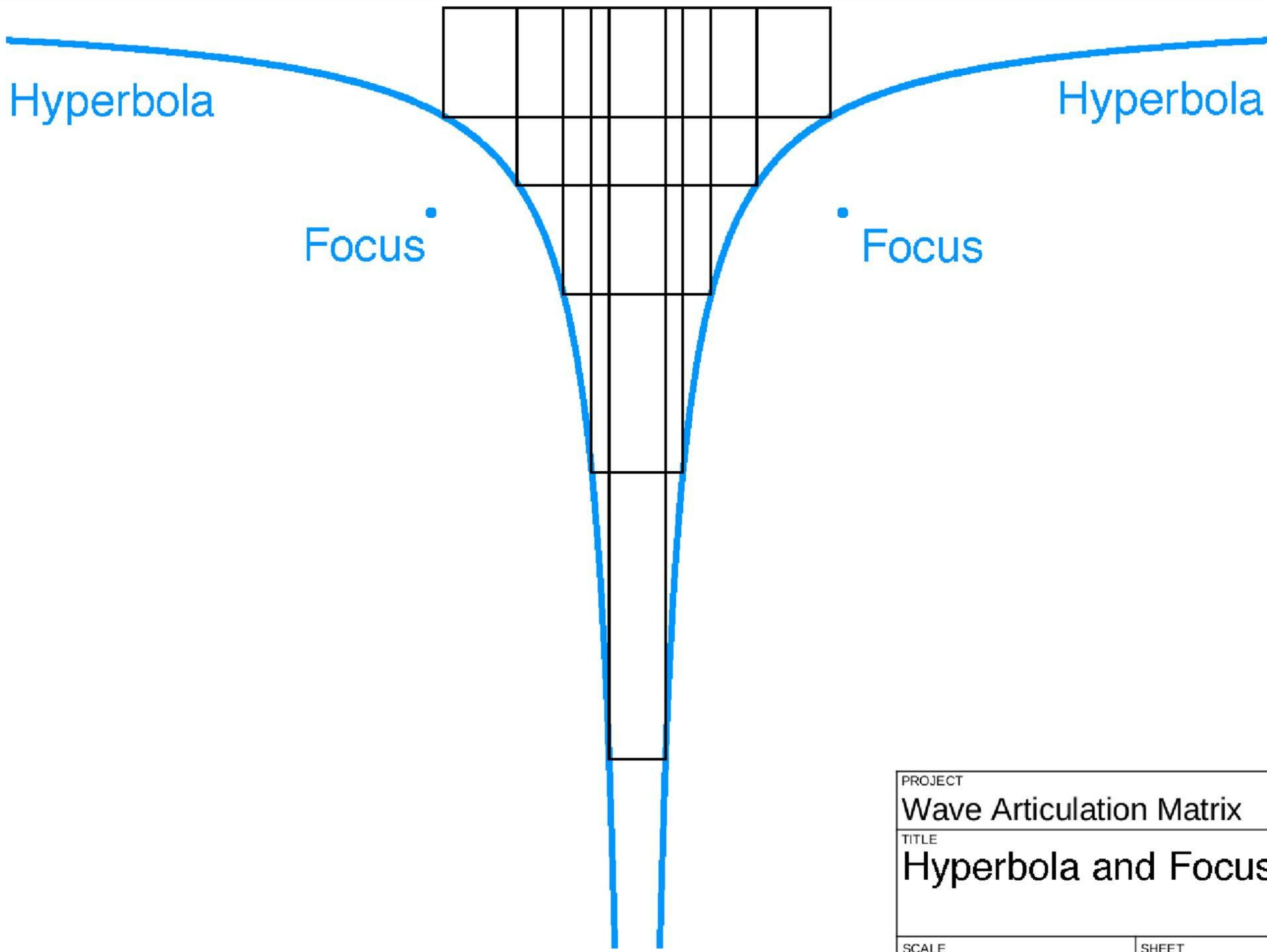
A A

UNLESS OTHERWISE SPECIFIED:		NAME	DATE	ALPHA MACHINE AND FAB.
DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH ± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN	JL		TITLE:
	CHECKED			JIG2
	ENG APPR.			
	MFG APPR.			
INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.			
MATERIAL PLASTIC	COMMENTS:			SIZE A DWG. NO. ALPM-002 REV A1
FINISH				SCALE: 1:4 SHEET 1 OF 1

2 1



Hollow Ring



PROJECT

Wave Articulation Matrix

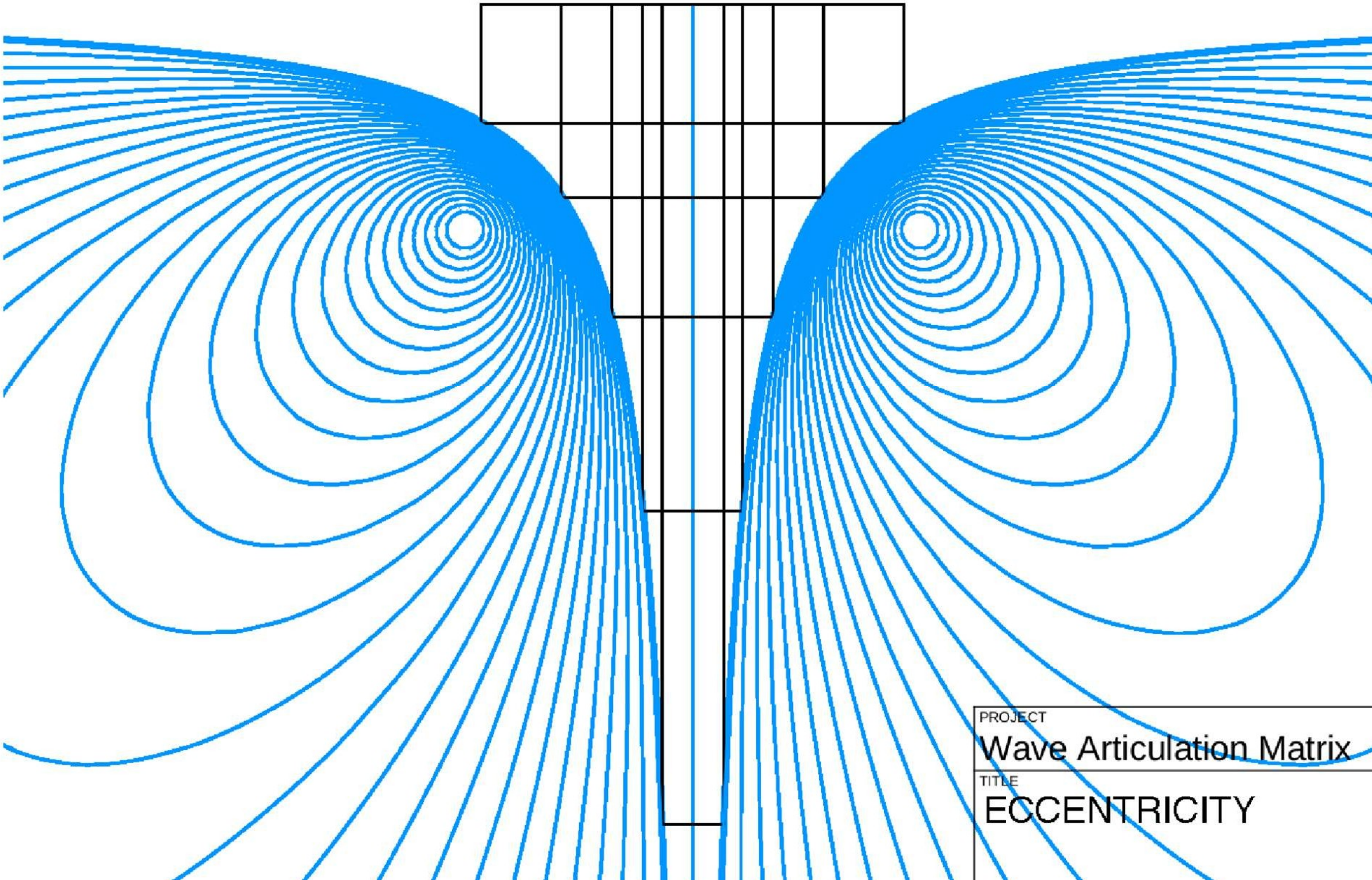
TITLE

Hyperbola and Focus

SCALE

SHEET

Vary the eccentricity of the Hyperbola to create Ellipses



PROJECT

Wave Articulation Matrix

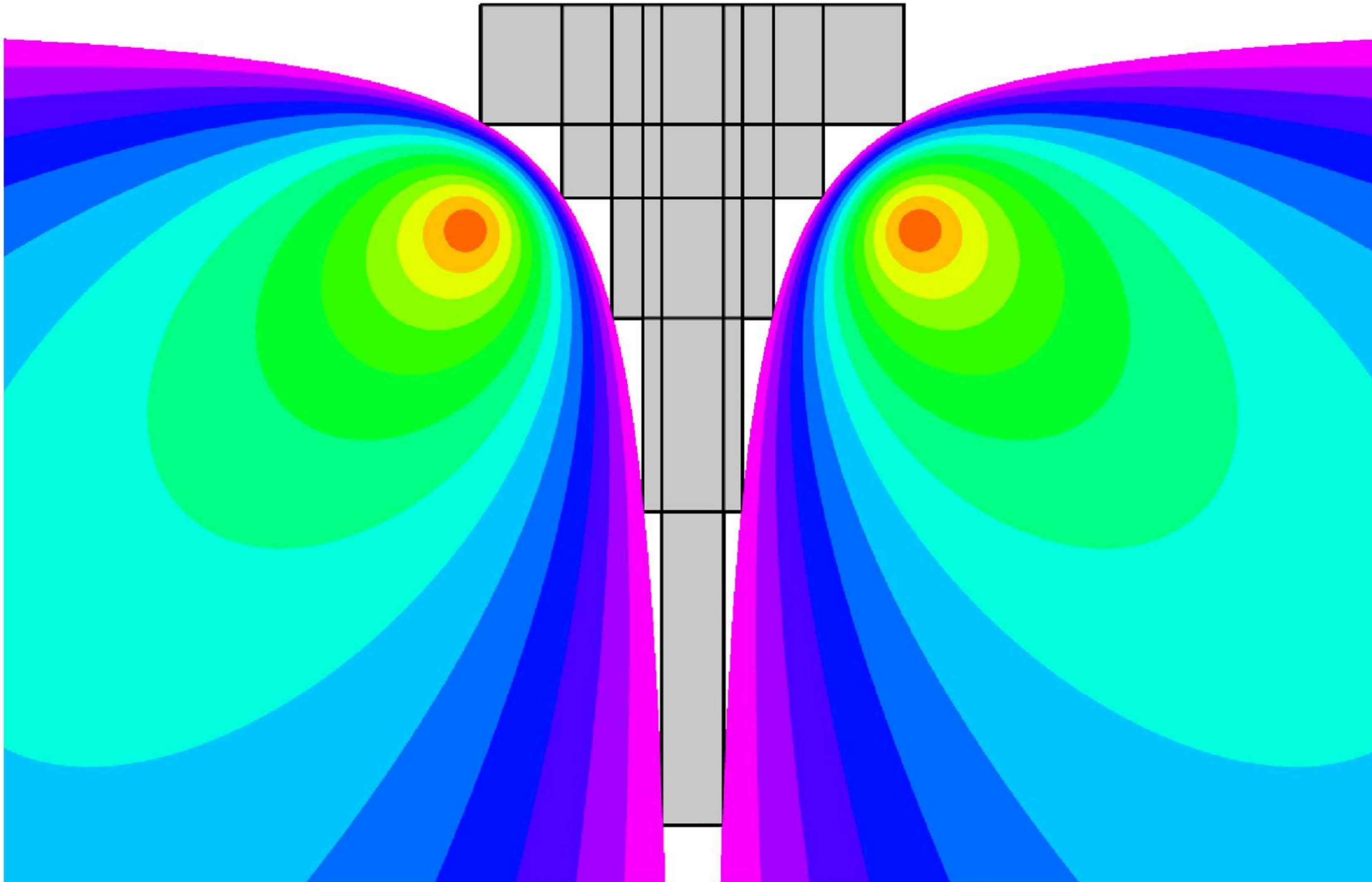
TITLE

ECCENTRICITY

SCALE

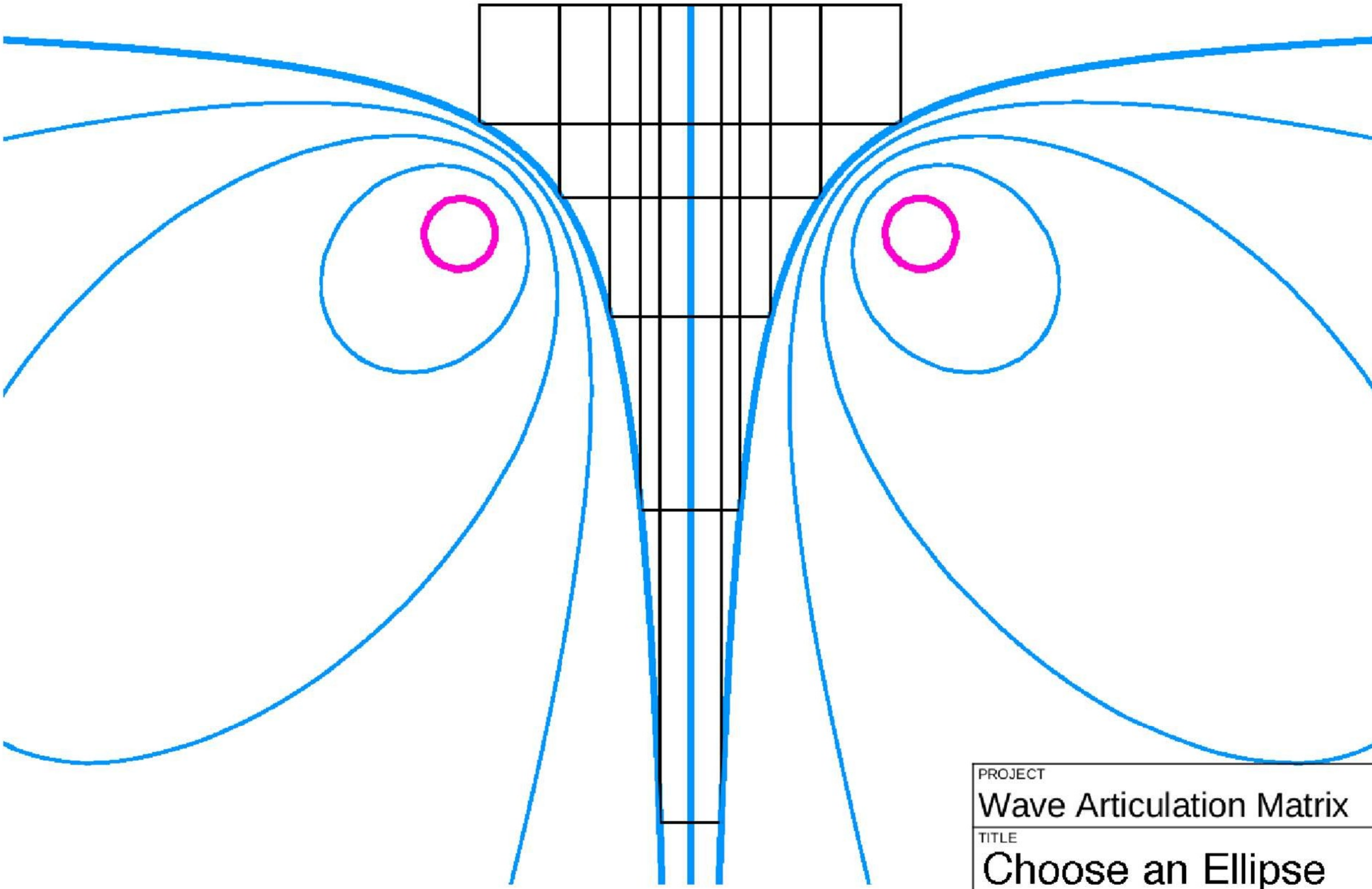
SHEET

The Ellipses each share one focus with the Hyperbola



SCALE	SHEET

Choose one of the Ellipses

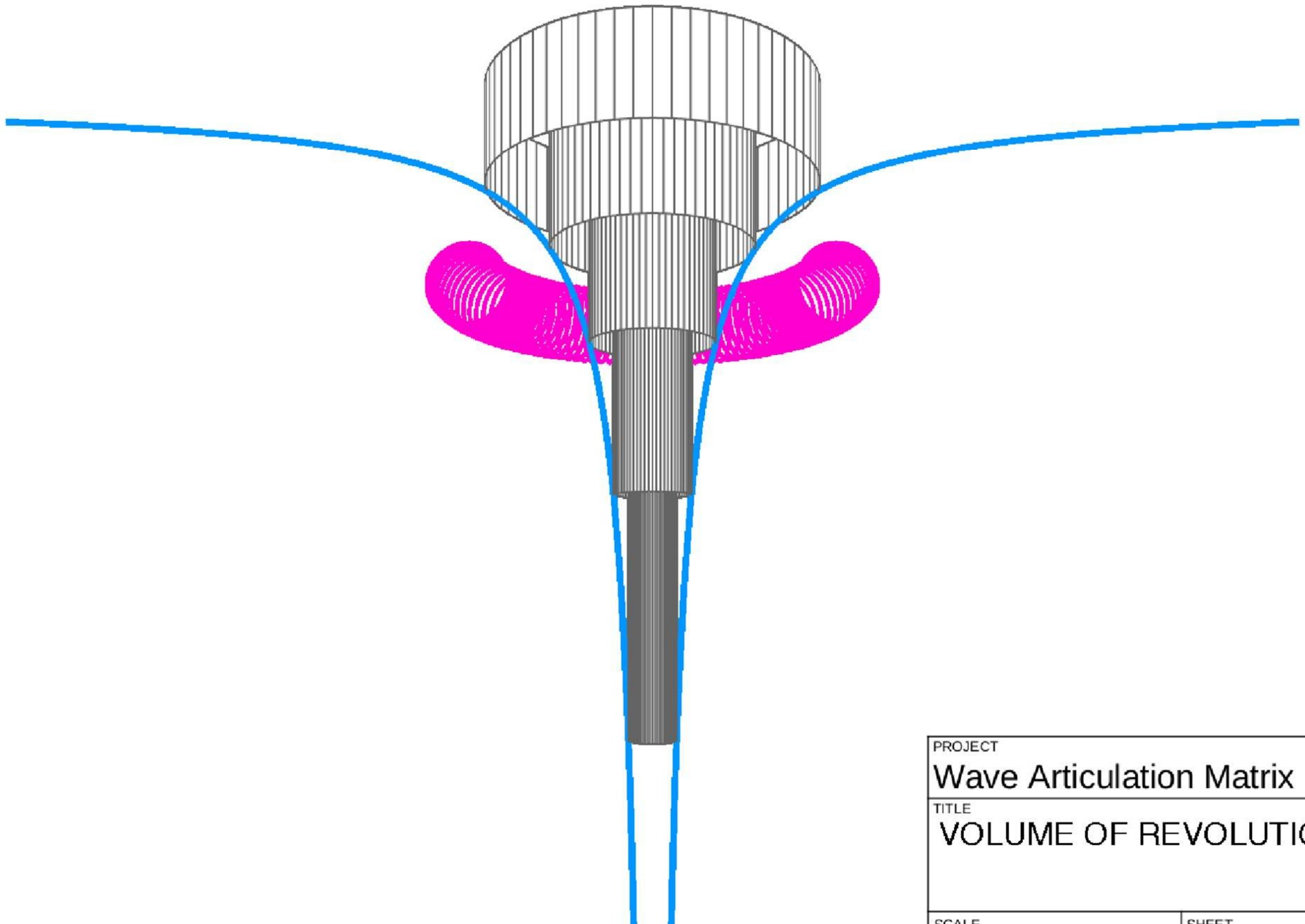


PROJECT
Wave Articulation Matrix

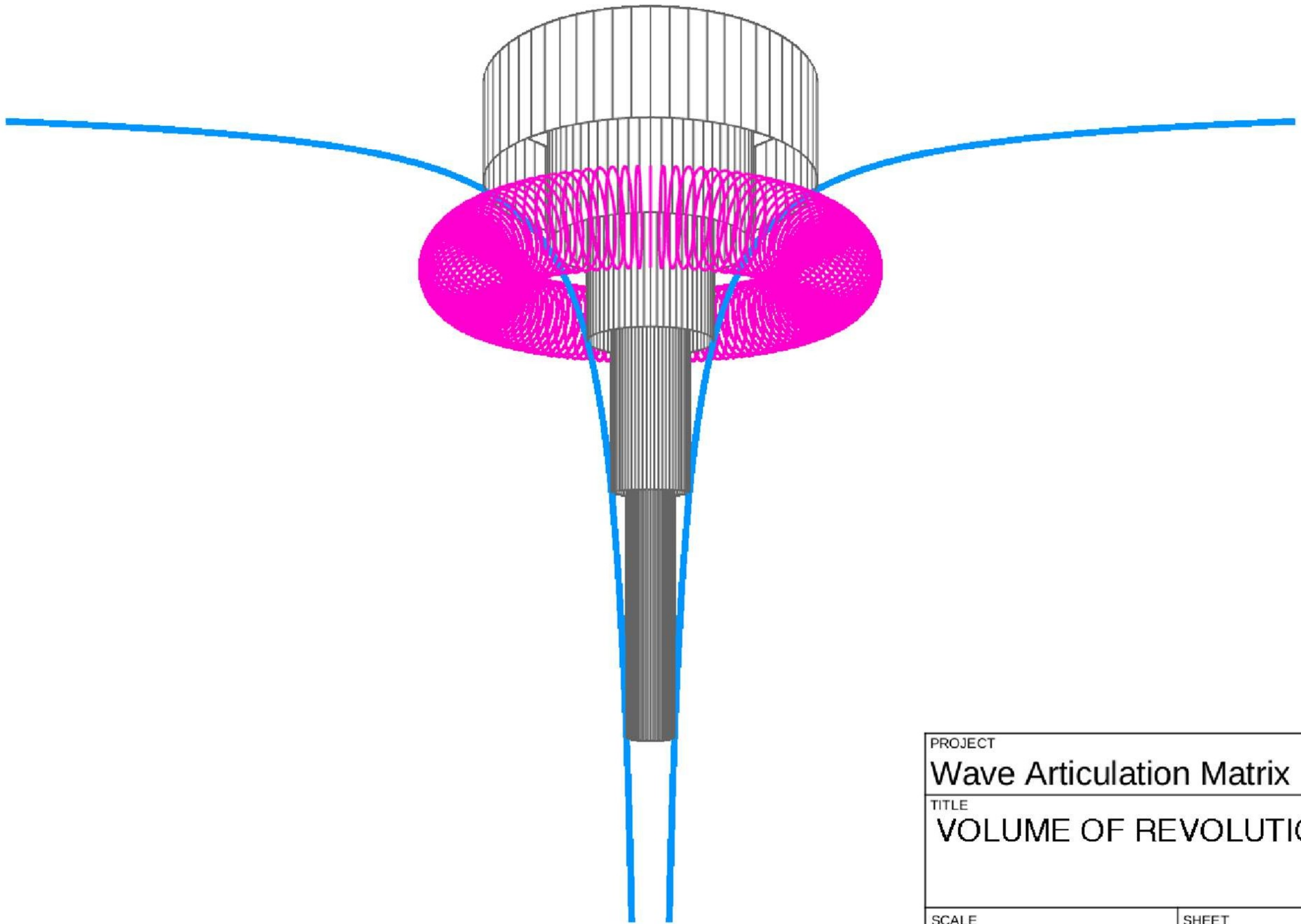
TITLE
Choose an Ellipse

SCALE	SHEET

Rotate the Ellipse around the Hyperbola's vertical asymptote.



PROJECT Wave Articulation Matrix	
TITLE VOLUME OF REVOLUTION	
SCALE	SHEET



PROJECT

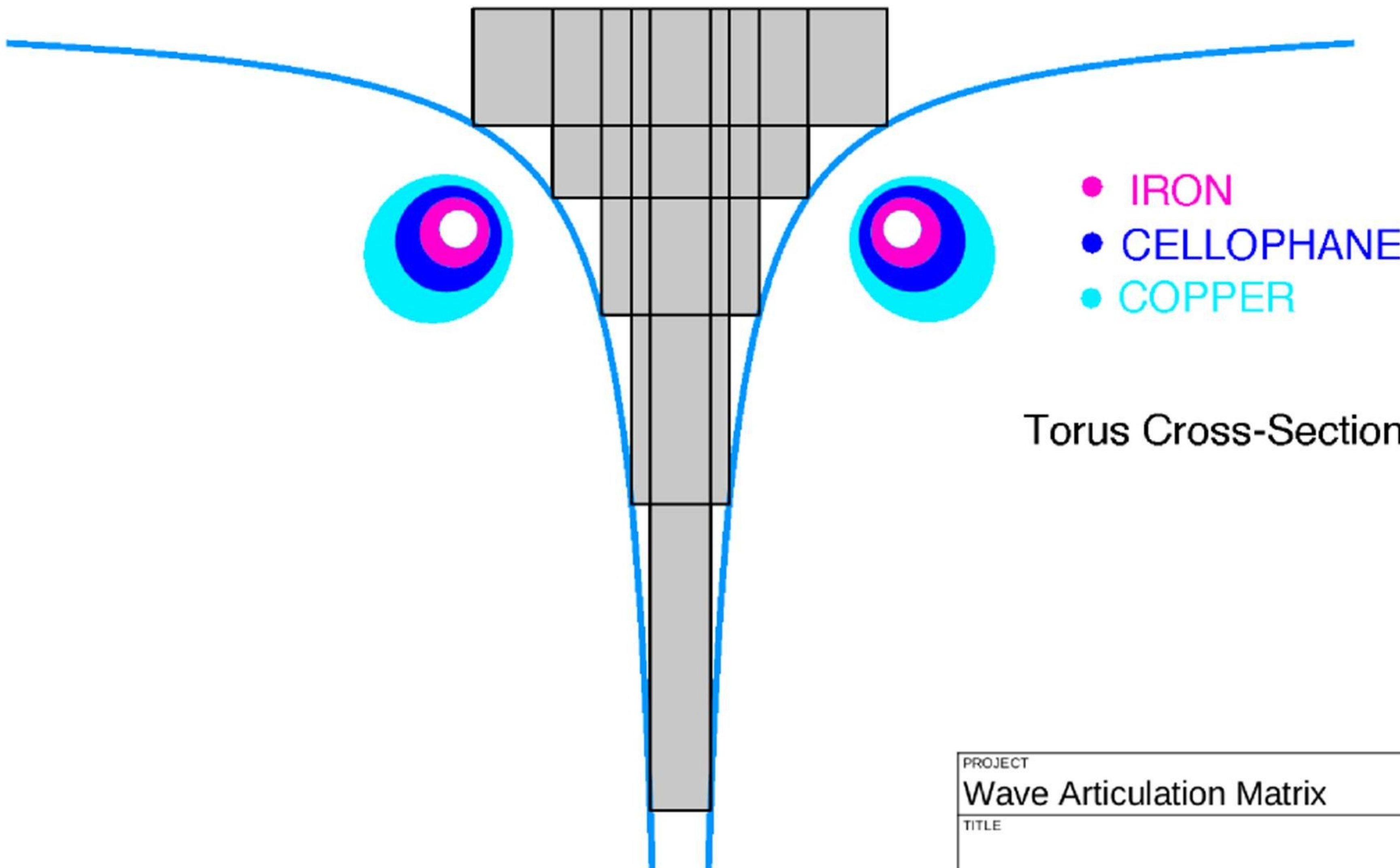
Wave Articulation Matrix

TITLE

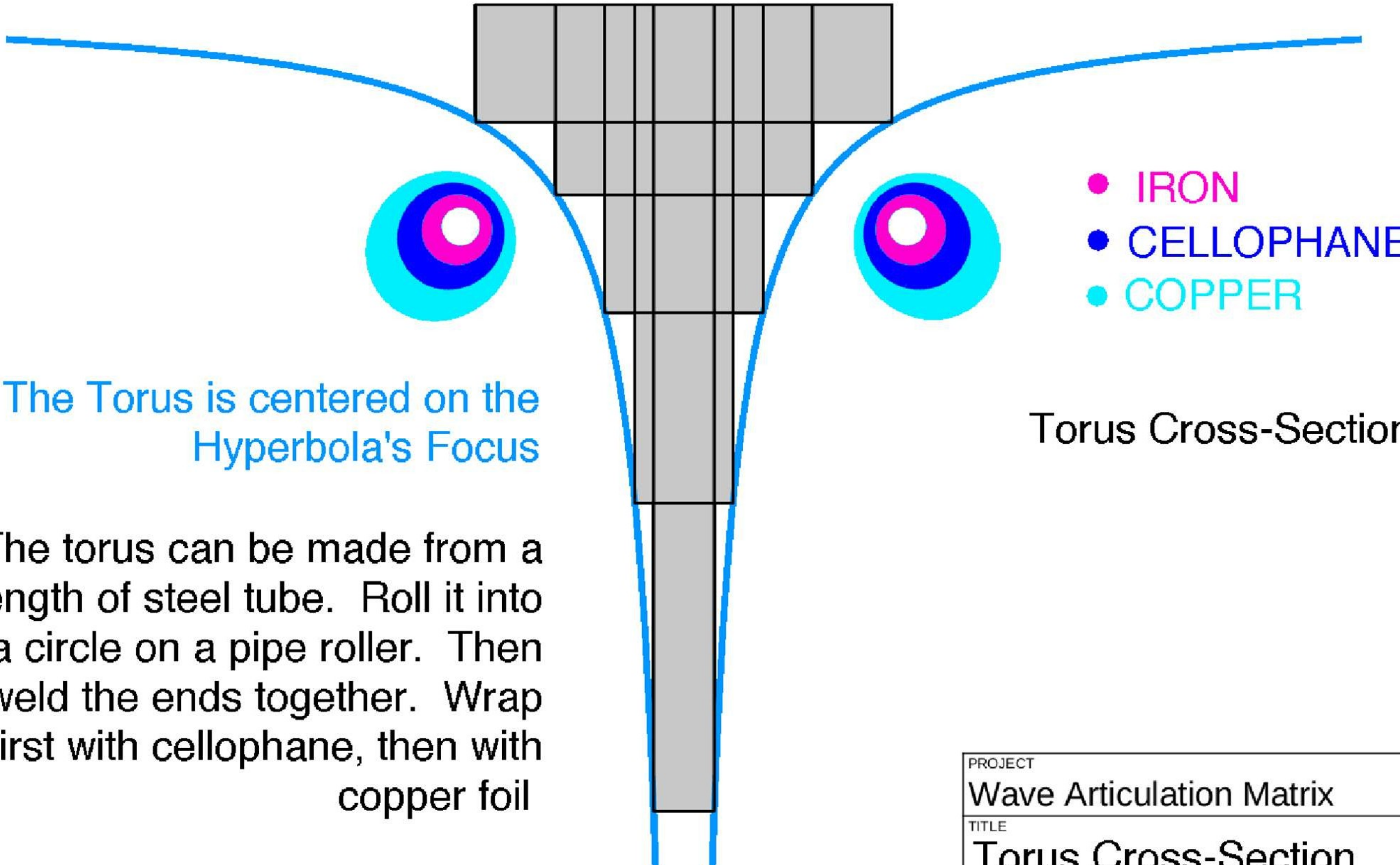
VOLUME OF REVOLUTION 2

SCALE

SHEET



PROJECT Wave Articulation Matrix	
TITLE	
SCALE	SHEET

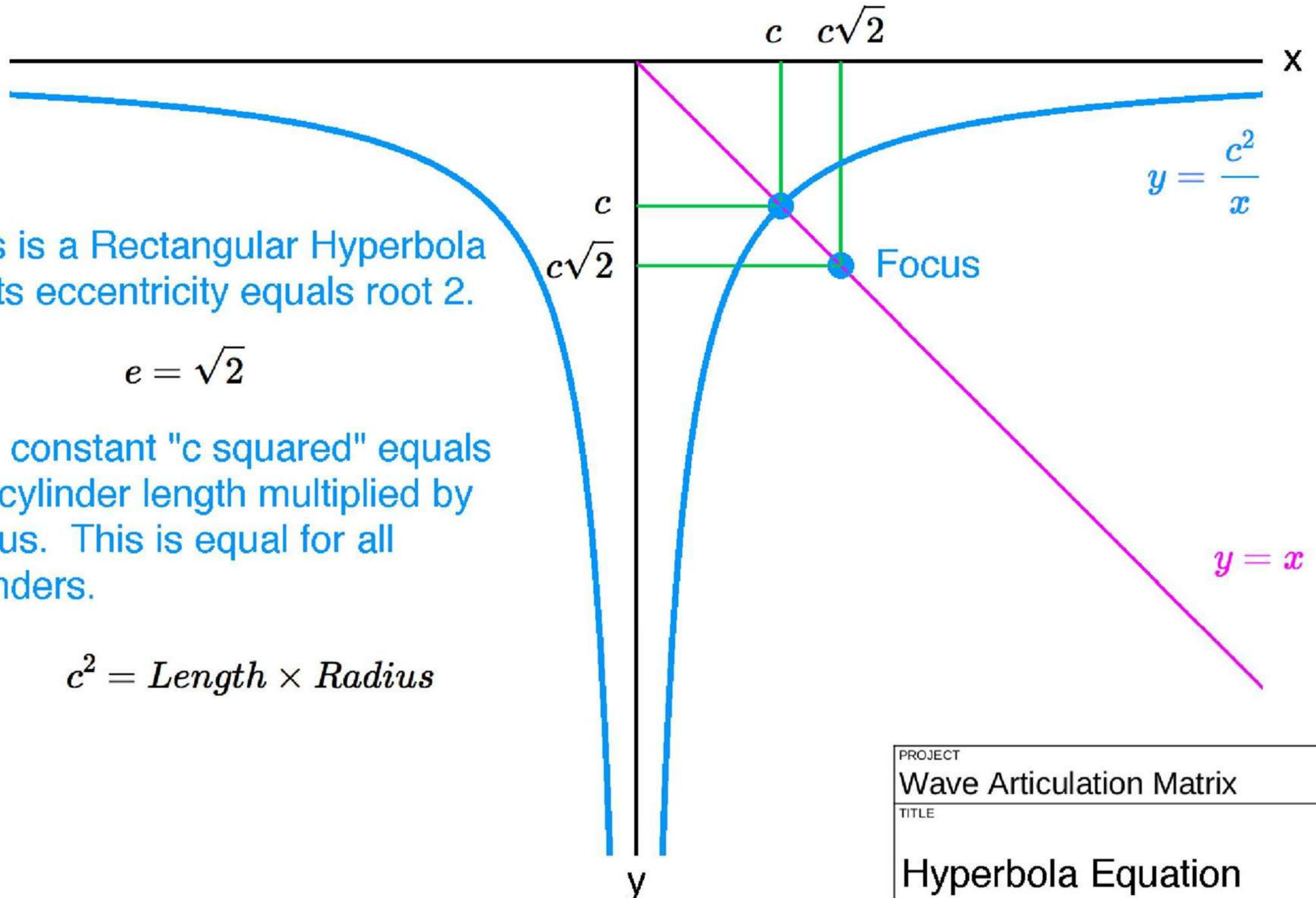


The Torus is centered on the Hyperbola's Focus

Torus Cross-Section

The torus can be made from a length of steel tube. Roll it into a circle on a pipe roller. Then weld the ends together. Wrap it first with cellophane, then with copper foil

PROJECT Wave Articulation Matrix	
TITLE Torus Cross-Section	
SCALE	SHEET



This is a Rectangular Hyperbola so its eccentricity equals root 2.

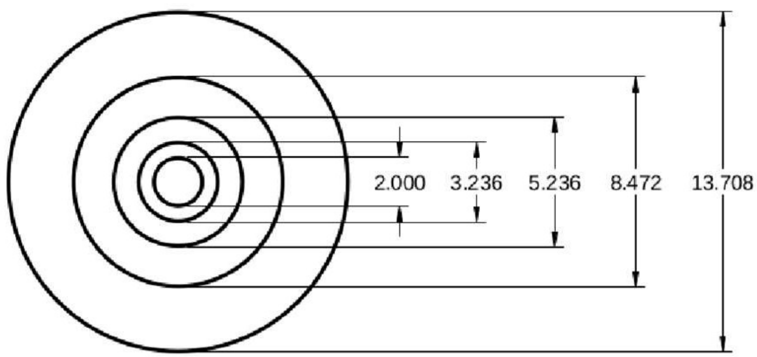
$$e = \sqrt{2}$$

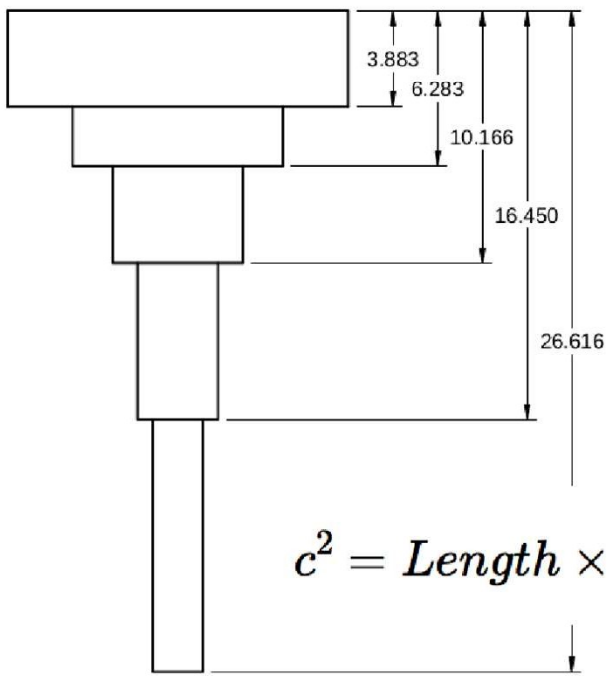
The constant "c squared" equals the cylinder length multiplied by radius. This is equal for all cylinders.

$$c^2 = Length \times Radius$$

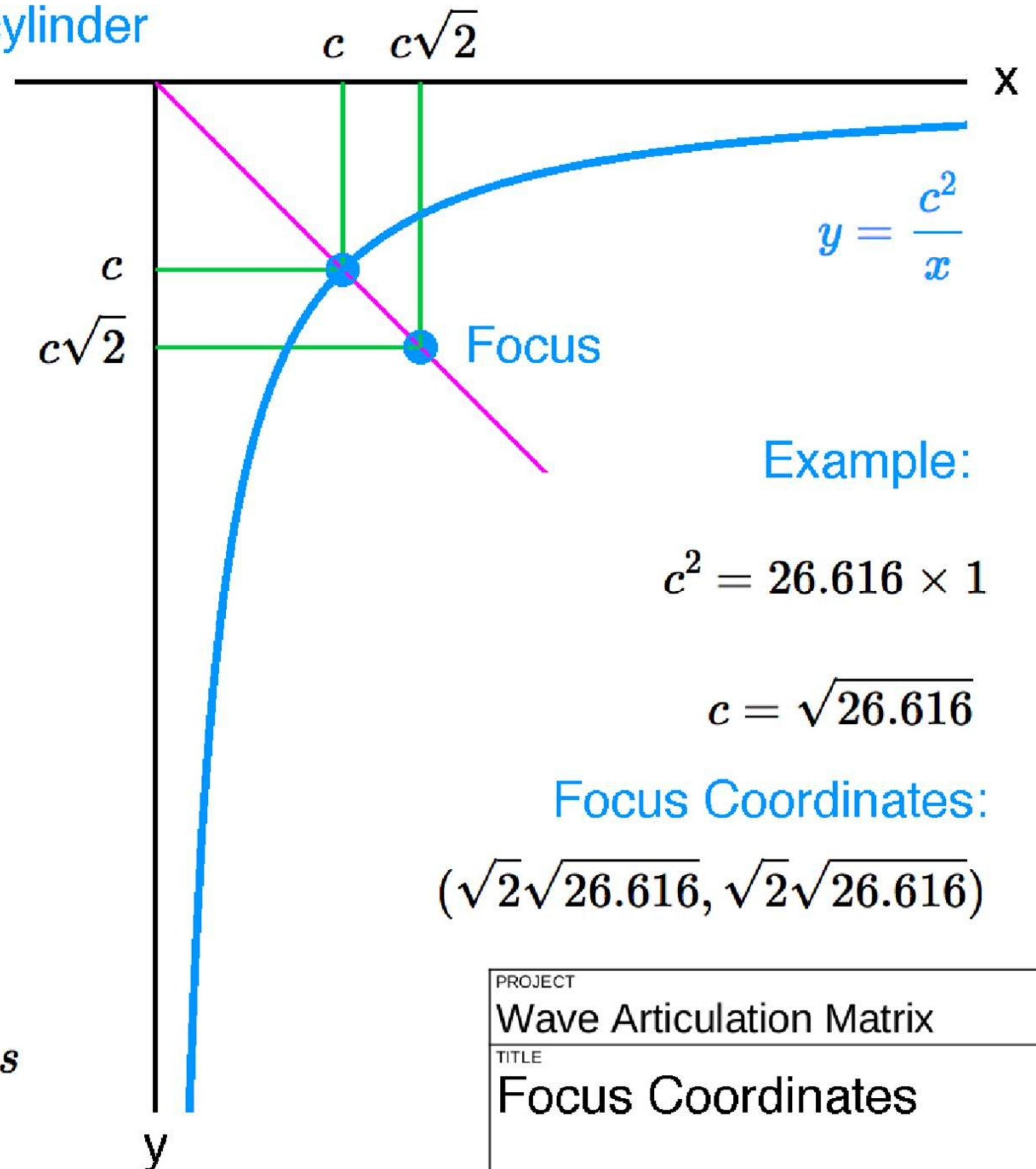
PROJECT	
Wave Articulation Matrix	
TITLE	
Hyperbola Equation	
SCALE	SHEET

Example: 2 inch diameter center cylinder





$$c^2 = Length \times Radius$$



Example:

$$c^2 = 26.616 \times 1$$

$$c = \sqrt{26.616}$$

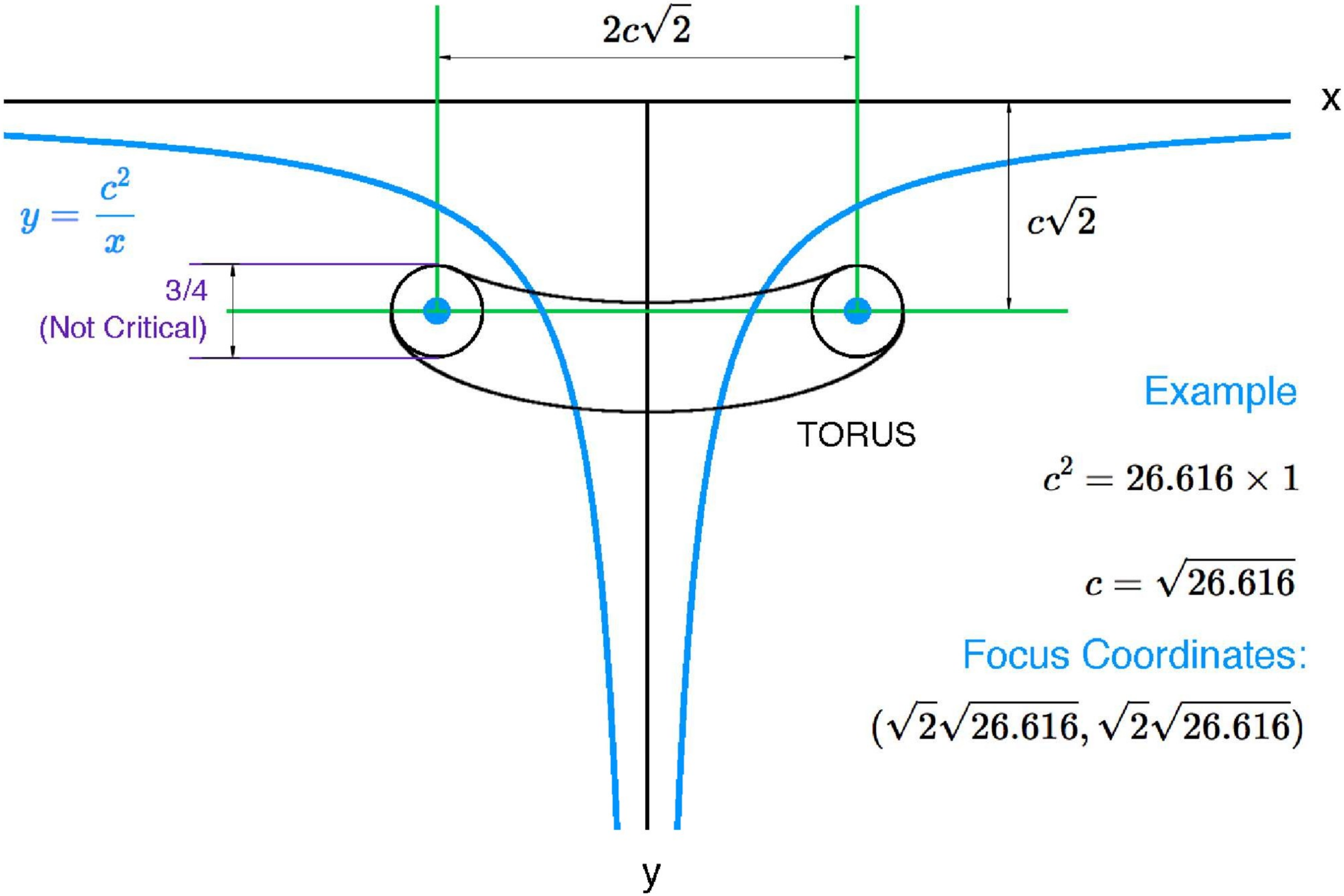
Focus Coordinates:

$$(\sqrt{2}\sqrt{26.616}, \sqrt{2}\sqrt{26.616})$$

PROJECT
Wave Articulation Matrix

TITLE
Focus Coordinates

SCALE 1:8 | SHEET 2/3



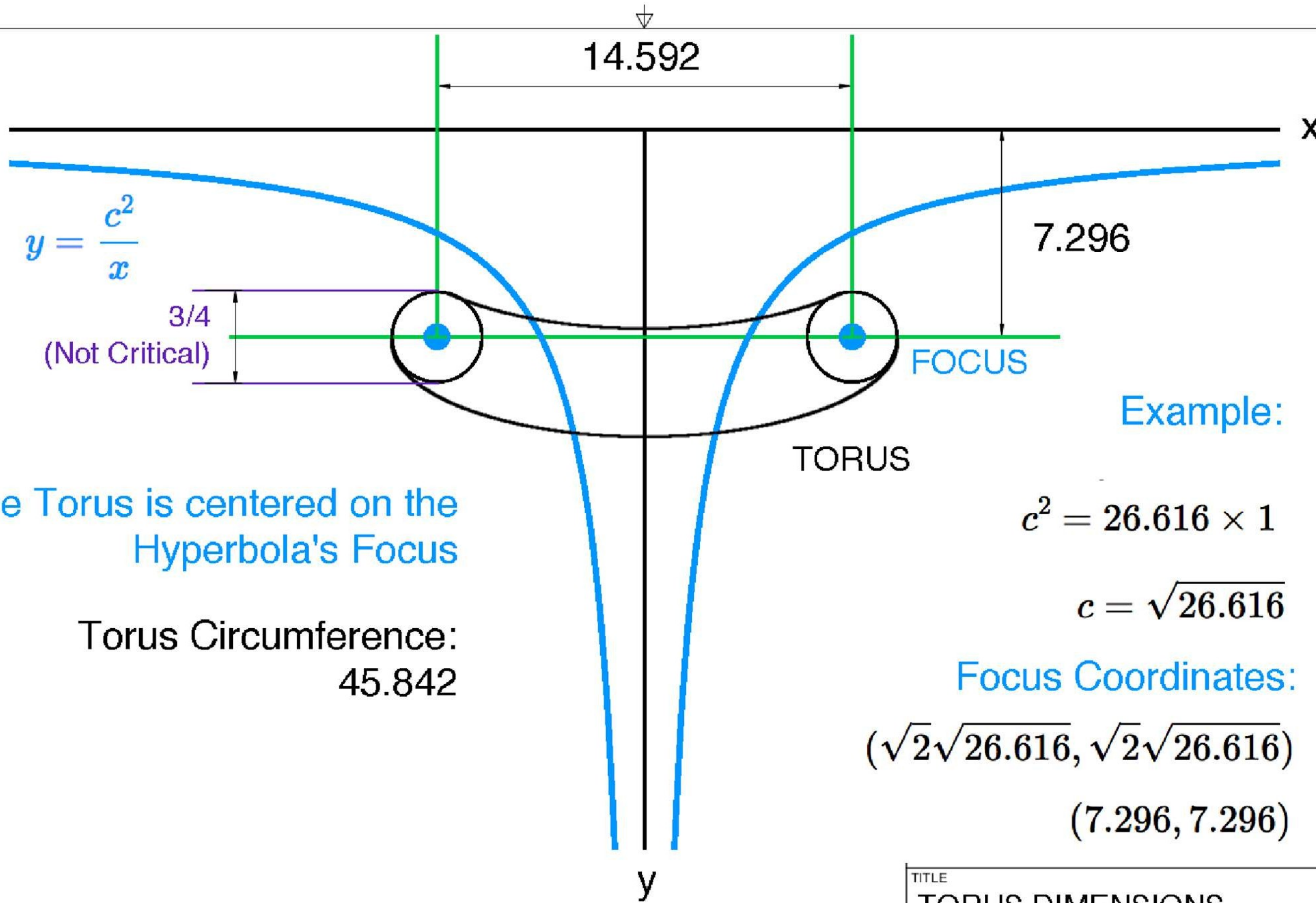
Example

$$c^2 = 26.616 \times 1$$

$$c = \sqrt{26.616}$$

Focus Coordinates:

$$(\sqrt{2}\sqrt{26.616}, \sqrt{2}\sqrt{26.616})$$



The Torus is centered on the Hyperbola's Focus

Torus Circumference: 45.842

Example:

$$c^2 = 26.616 \times 1$$

$$c = \sqrt{26.616}$$

Focus Coordinates:

$$(\sqrt{2}\sqrt{26.616}, \sqrt{2}\sqrt{26.616})$$

$$(7.296, 7.296)$$

All Units in Inches

TITLE	
TORUS DIMENSIONS, DECIMAL	
SCALE	SHEET

Hollow Ring, or "Torus"
The Torus is made out of 3/4 inch steel tube, .049 inch wall (18 gauge). The important thing is that the center of the tube is lined up with the Hyperbola's Focus. That's where the magic happens.

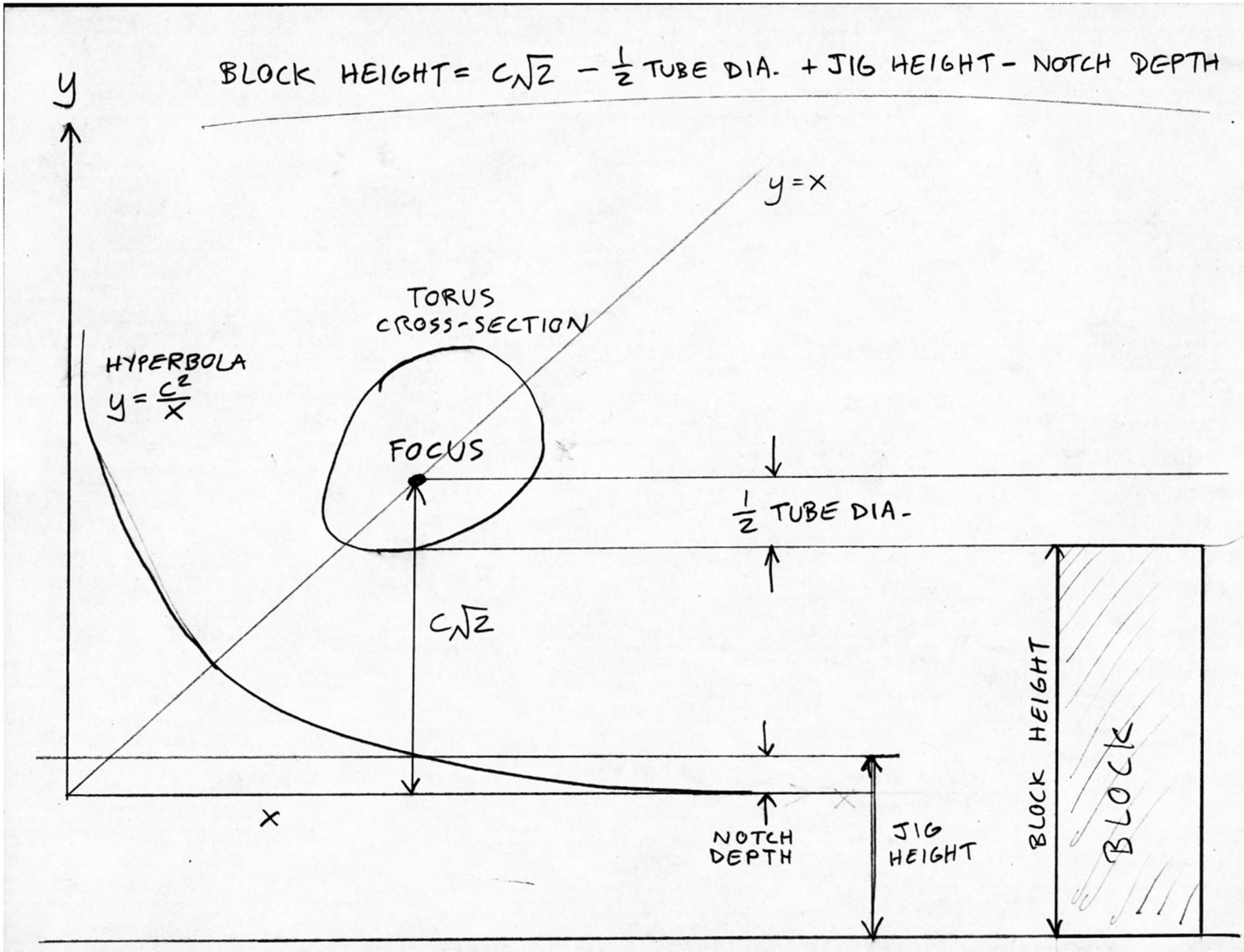
The circumference of the torus is just under four feet. In the process of bending the tube into a circle on the tube rolling machine, you lose about 10 inches at each end. So order a six foot length of steel tubing.

Low-Carbon Steel Round Tube
0.049" Wall Thickness, 3/4" OD
6 Feet Long
McMaster Carr Part Number 7767T21
$12.66 Each

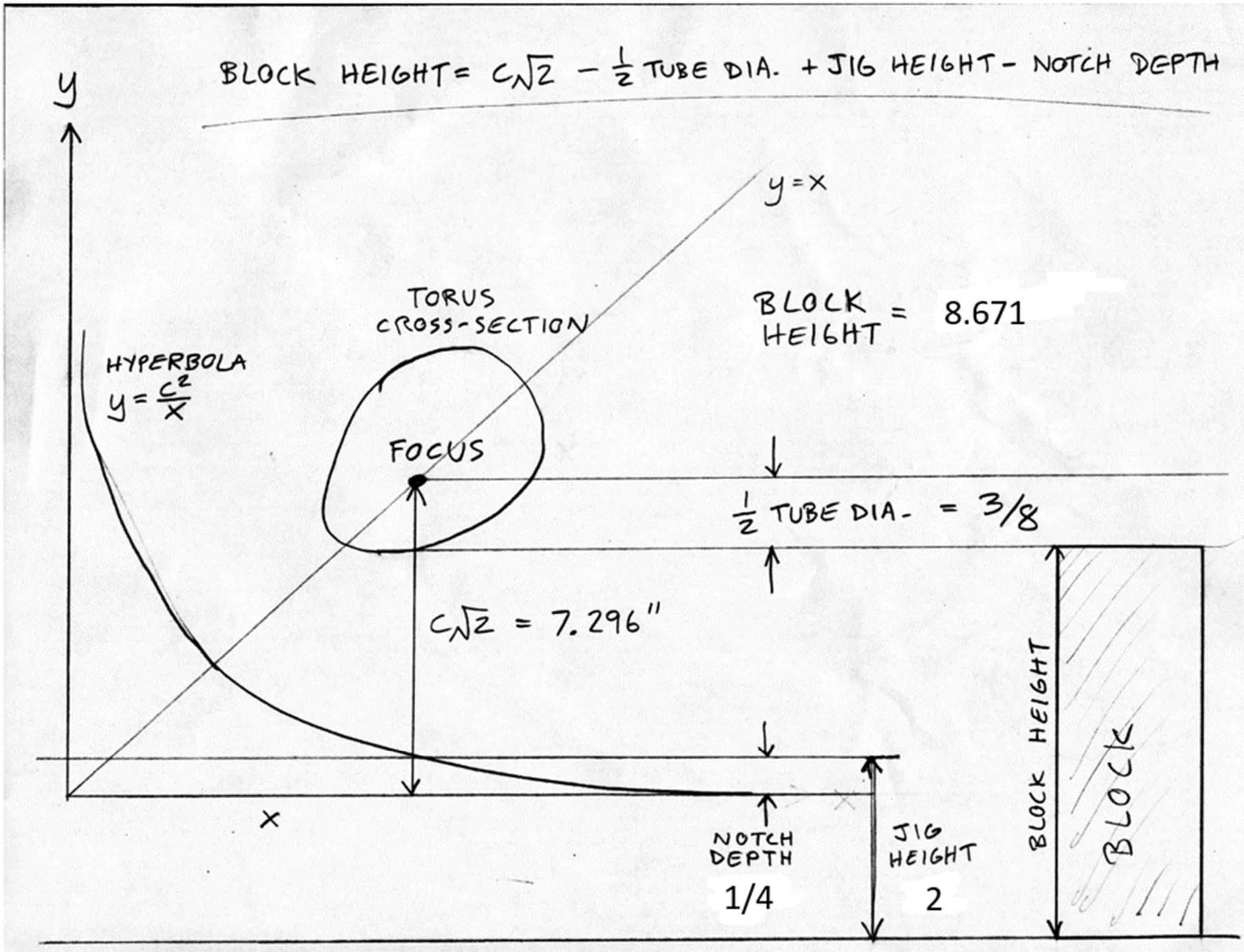
Hollow Ring, or "Torus"

Wrap the “Torus” with a layer of cellophane. Then wrap with a layer of copper foil tape.

Blocks to Hold Hollow Ring



BLOCK HEIGHT = $C\sqrt{2} - \frac{1}{2}$ TUBE DIA. + JIG HEIGHT − NOTCH DEPTH
y
y = x
TORUS
CROSS-SECTION
HYPERBOLA
$y = \frac{C^2}{x}$
FOCUS
$\frac{1}{2}$ TUBE DIA.
$C\sqrt{2}$
BLOCK HEIGHT
BLOCK
x
NOTCH
DEPTH
JIG
HEIGHT


BLOCK HEIGHT = C√2 − ½ TUBE DIA. + JIG HEIGHT − NOTCH DEPTH
y
y = x
TORUS CROSS-SECTION
BLOCK HEIGHT = 8.671
HYPERBOLA
y = C²/x
FOCUS
½ TUBE DIA. = 3/8
C√2 = 7.296"
x
NOTCH DEPTH
1/4
JIG HEIGHT
2
BLOCK HEIGHT
BLOCK

$$c^2 = 26.616 \times 1$$
$$c = \sqrt{26.616}$$

FOCUS COORDINATES:

$$\left(\sqrt{2}\sqrt{26.616},\ \sqrt{2}\sqrt{26.616}\right)$$

$$c\sqrt{2} = 7.296''$$

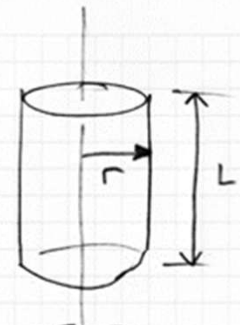
JIG HEIGHT = 2 inch

NOTCH DEPTH = 1/4

$\frac{1}{2}$ TUBE DIA. = 3/8

$$\boxed{\text{BLOCK HEIGHT} = 7.296 - 3/8 + 2 - 1/4 = 8.671}$$

BLOCK HEIGHT = $c\sqrt{2}$ − $\frac{1}{2}$ TUBE DIA. + JIG HEIGHT − NOTCH



STEEL CYLINDER

$$c^2 = r \times L$$

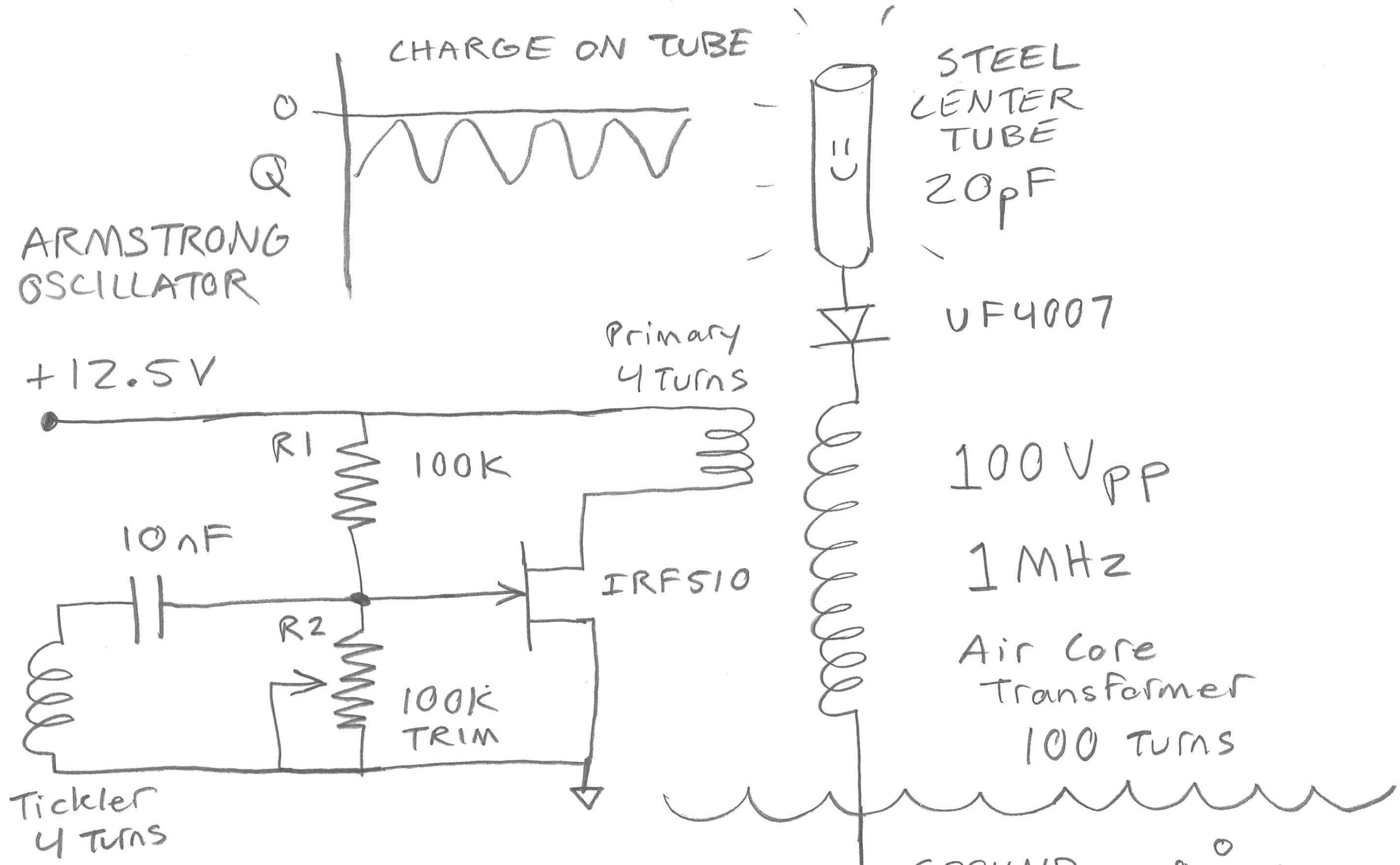
THIS VALUE IS THE SAME FOR ALL 5 STEEL CYLINDERS

BLOCK HEIGHT = 8.671

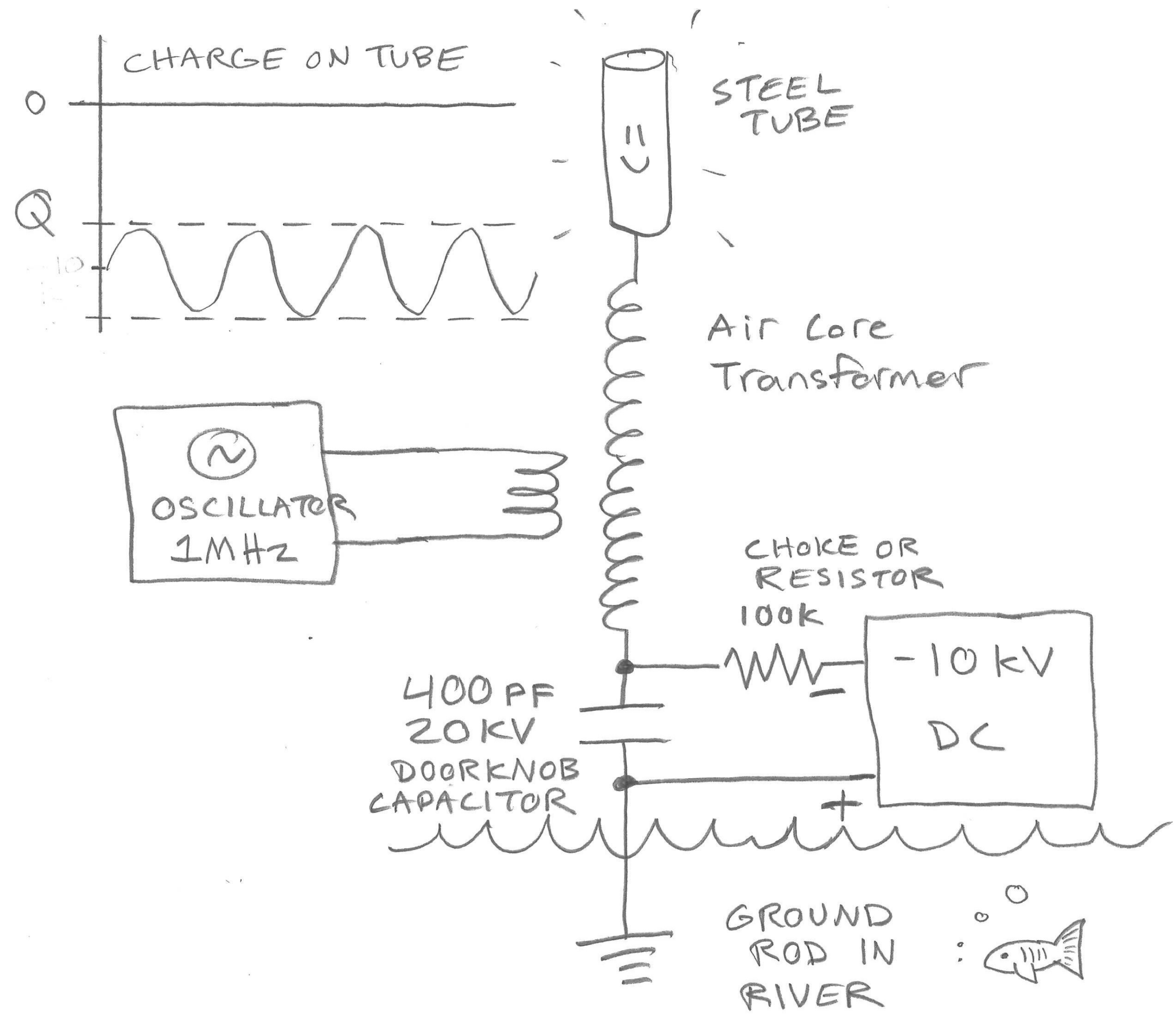
BLOCK HEIGHT = 8 - 5/8 INCH

Wiring Diagram

Armstrong Oscillator
1 Mhz
100 V p-p

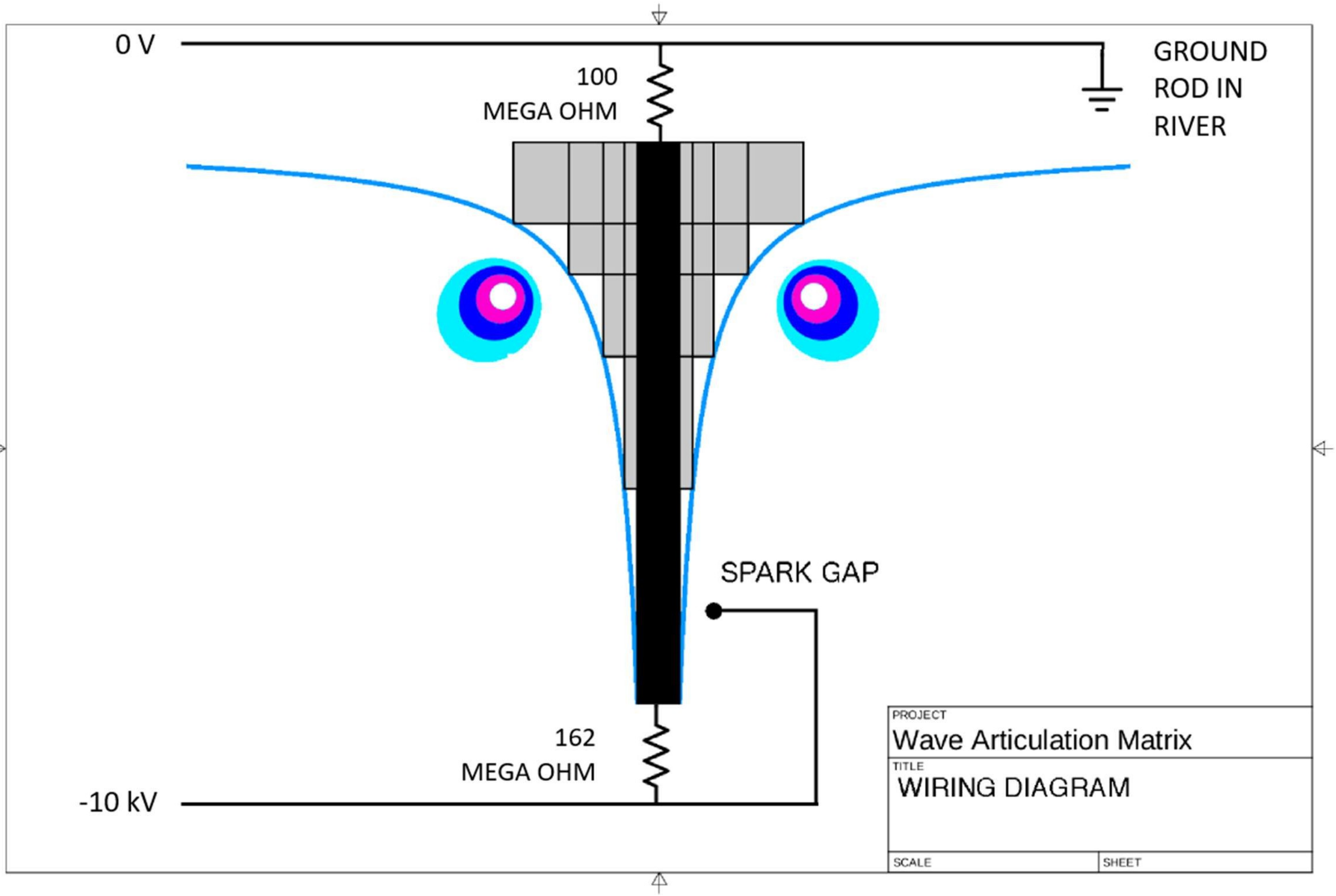


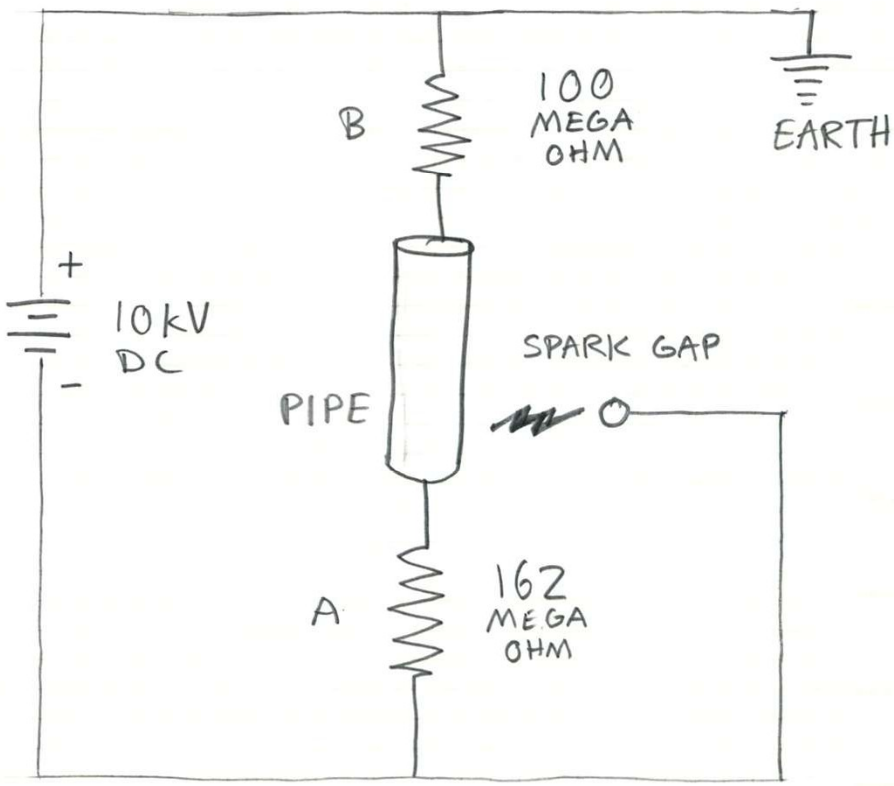
Tickler, Primary, Secondary wound on 2 inch HDPE tube. HDPE has low dielectric loss tangent. Turn up R2 until oscillation begins. Steel tube will become negatively charged. The diode's small junction capacitance allows the tube to discharge slightly each cycle. Effective at making rain.


CHARGE ON TUBE
0
Q
STEEL TUBE
Air Core Transformer
OSCILLATOR 1MHz
CHOKE OR RESISTOR
100k
-10 kV DC
400 PF 20 KV DOORKNOB CAPACITOR
GROUND ROD IN RIVER

Wiring Diagram

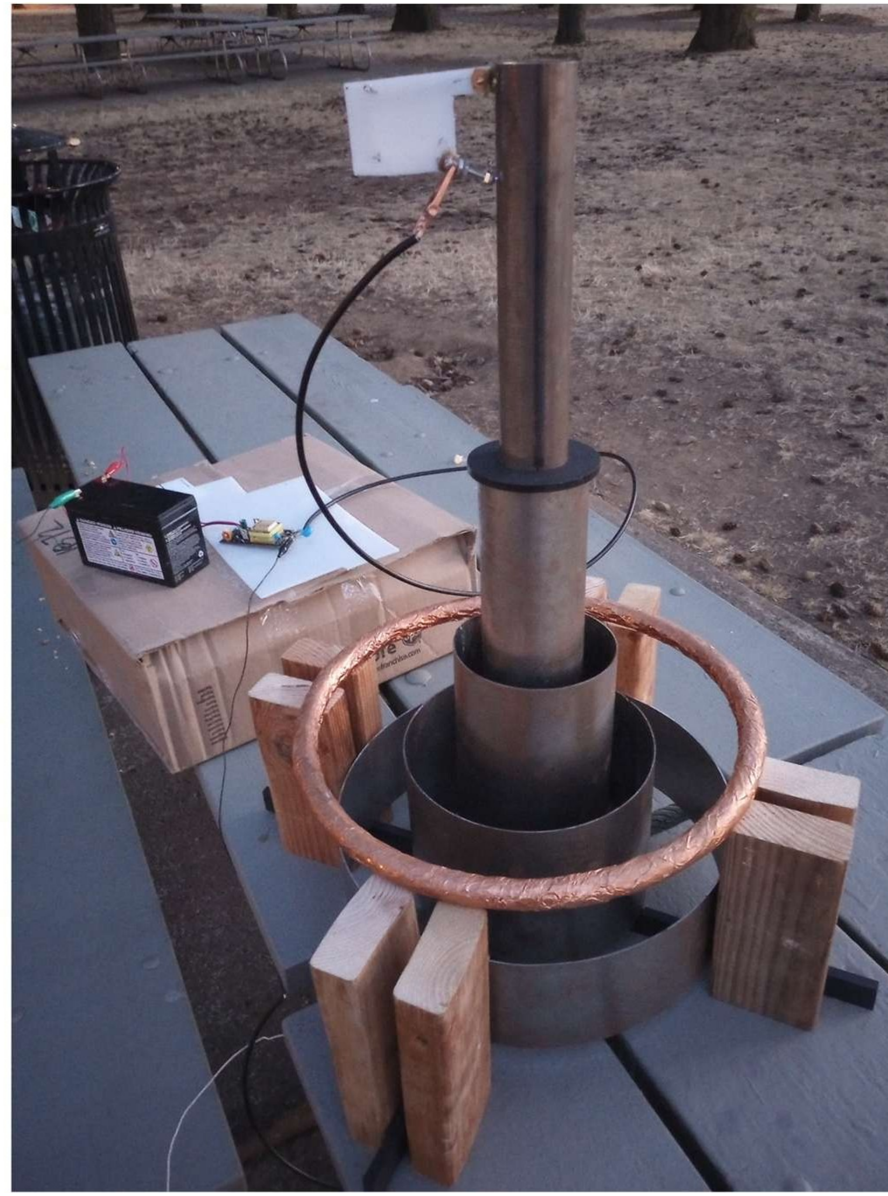
-10 kV DC, Spark Gap


0 V
100
MEGA OHM
GROUND
ROD IN
RIVER
SPARK GAP
162
MEGA OHM
-10 kV
PROJECT
Wave Articulation Matrix
TITLE
WIRING DIAGRAM
SCALE
SHEET



$$\frac{A}{B} = \frac{1+\sqrt{5}}{2}$$

$$\frac{A}{A+B} = \frac{2}{1+\sqrt{5}}$$



$V =$ Circuit Voltage relative to Earth

$Q =$ Charge

$\sigma =$ Surface Charge Density

$\Phi =$ Electric Potential

☥ $=$ Life

$$Q = CV$$

$$Q \propto V$$

$$\sigma \propto Q$$

$$\Phi \propto \sigma$$

$$\blacksquare$$

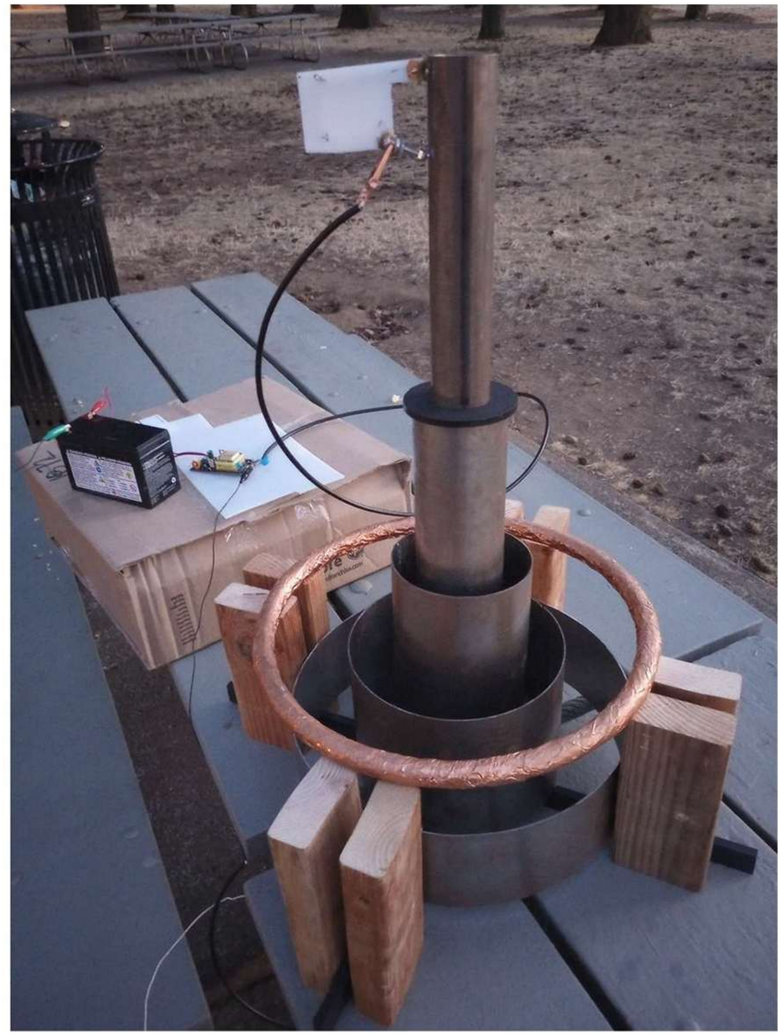
$$\Phi \propto V$$

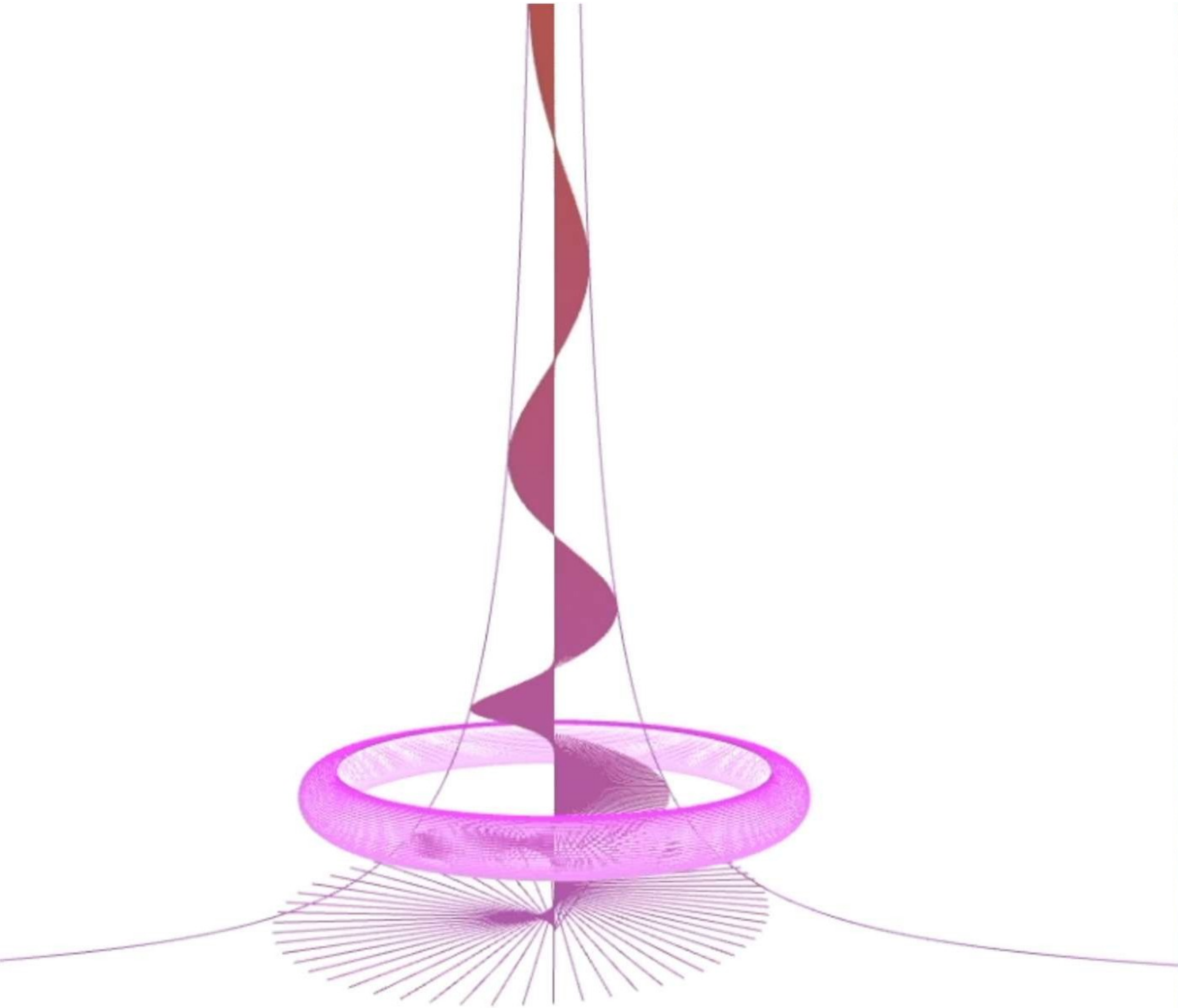
$$\frac{\partial \Phi}{\partial t} \propto \frac{\Delta V}{\Delta t}$$

$$\text{☥} \propto \frac{\partial \Phi}{\partial t}$$

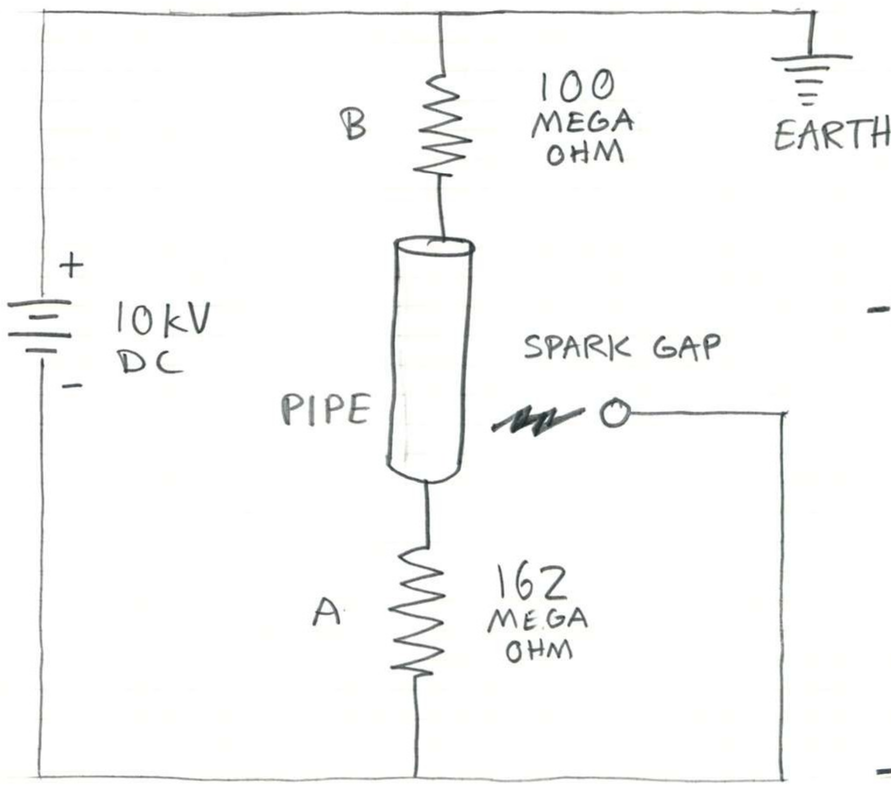
We are working with electric charge. We are varying the surface charge density on the pipe.

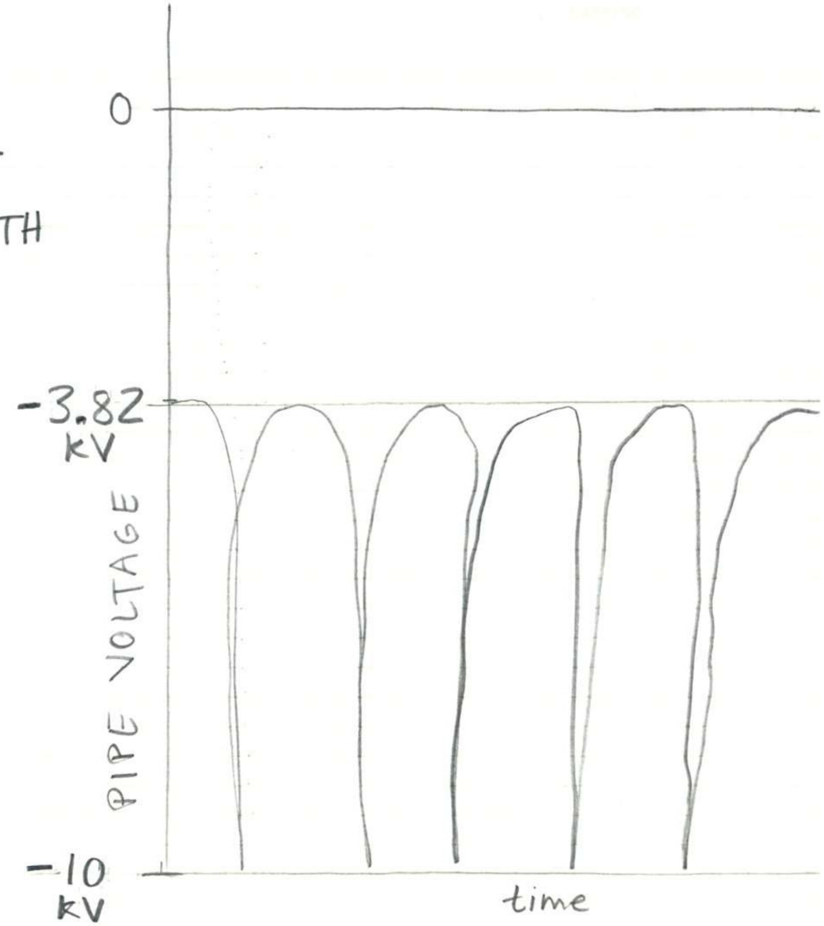
By varying the amount of charge on the pipe, we thus vary the magnitude of the electric potential in the space inside the pipe.





Aharonov Bohm Effect





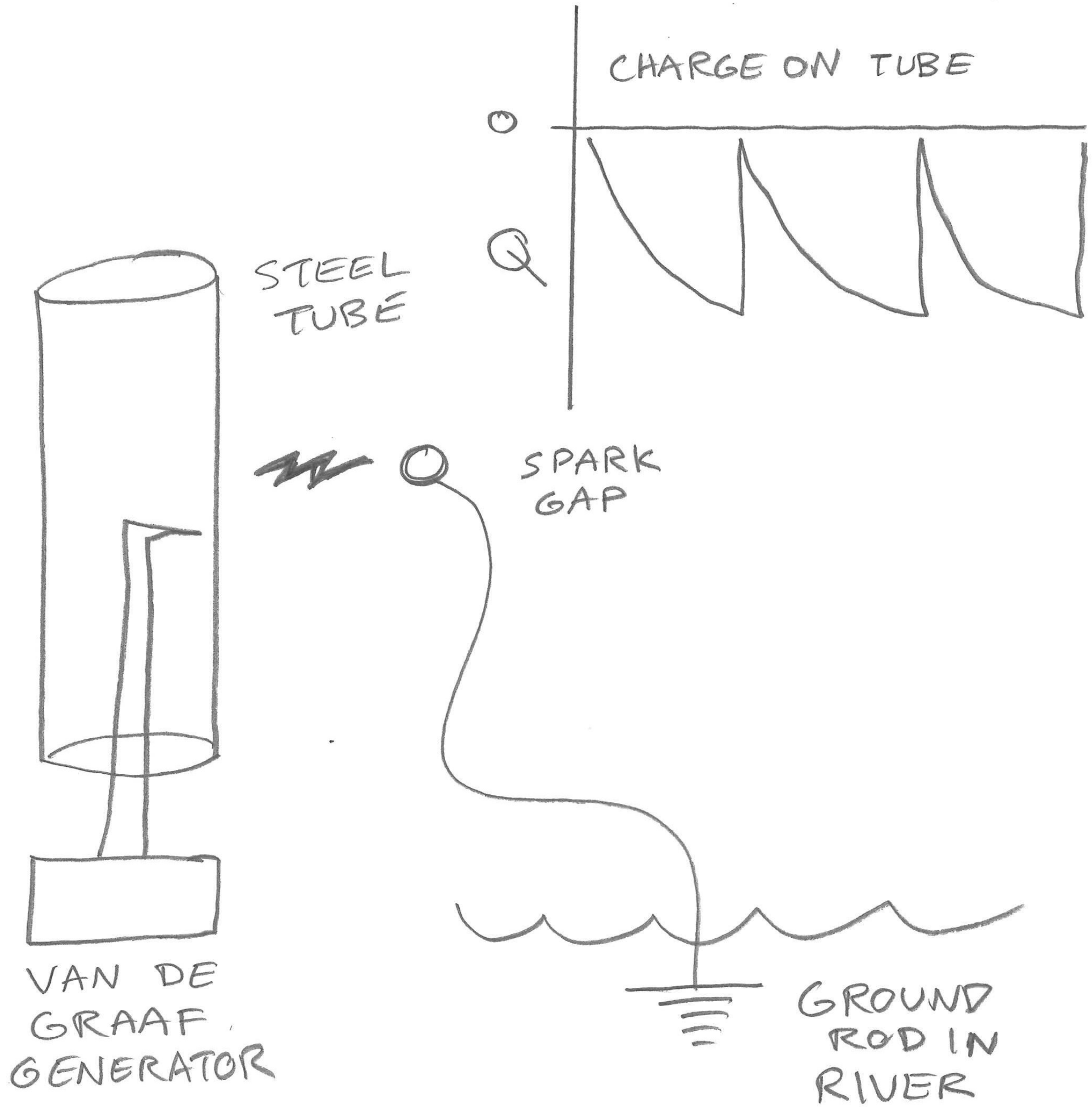
$$\frac{A}{B} = \frac{1+\sqrt{5}}{2}$$

$$\frac{A}{A+B} = \frac{2}{1+\sqrt{5}}$$

The pipe is always charged negative, just more and less so.

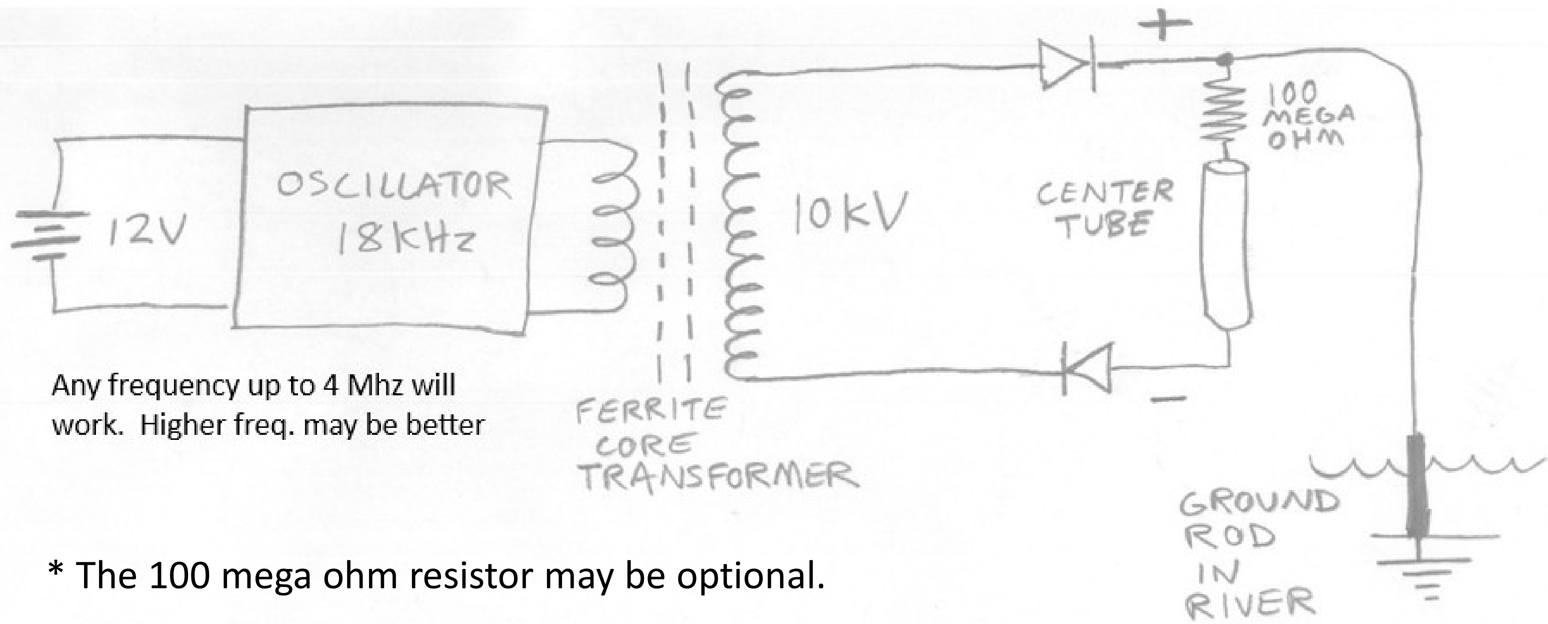
Wiring Diagram

Van de Graaf Generator


CHARGE ON TUBE
0
Q
STEEL TUBE
SPARK GAP
VAN DE GRAAF GENERATOR
GROUND ROD IN RIVER

Wiring Diagram

-10 kV, 18 kHz



Any frequency up to 4 Mhz will
work. Higher freq. may be better

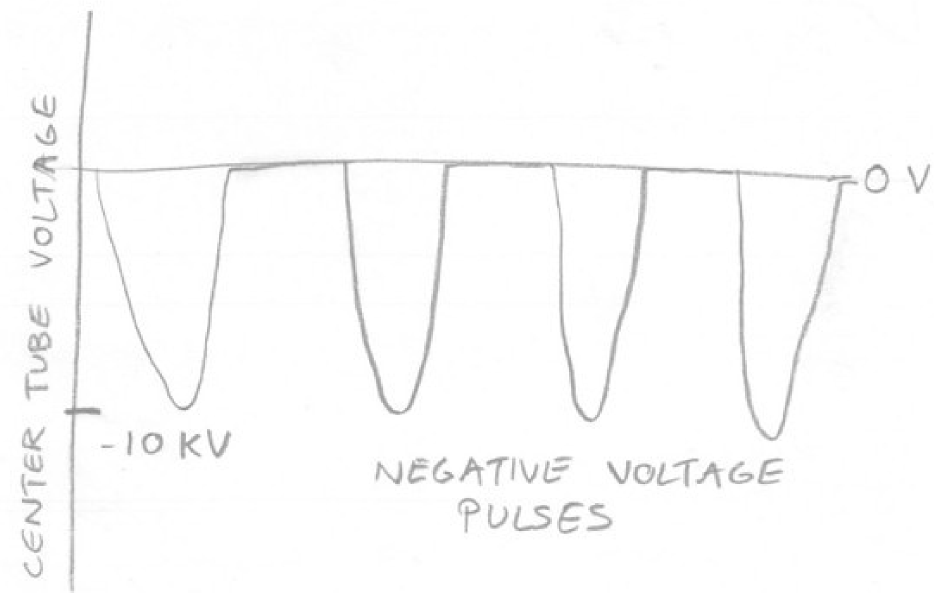
* The 100 mega ohm resistor may be optional.

$Q \propto V$

$\Phi \propto Q$

THE CHARGE ON THE TUBE IS PROPORTIONAL TO THE VOLTAGE.

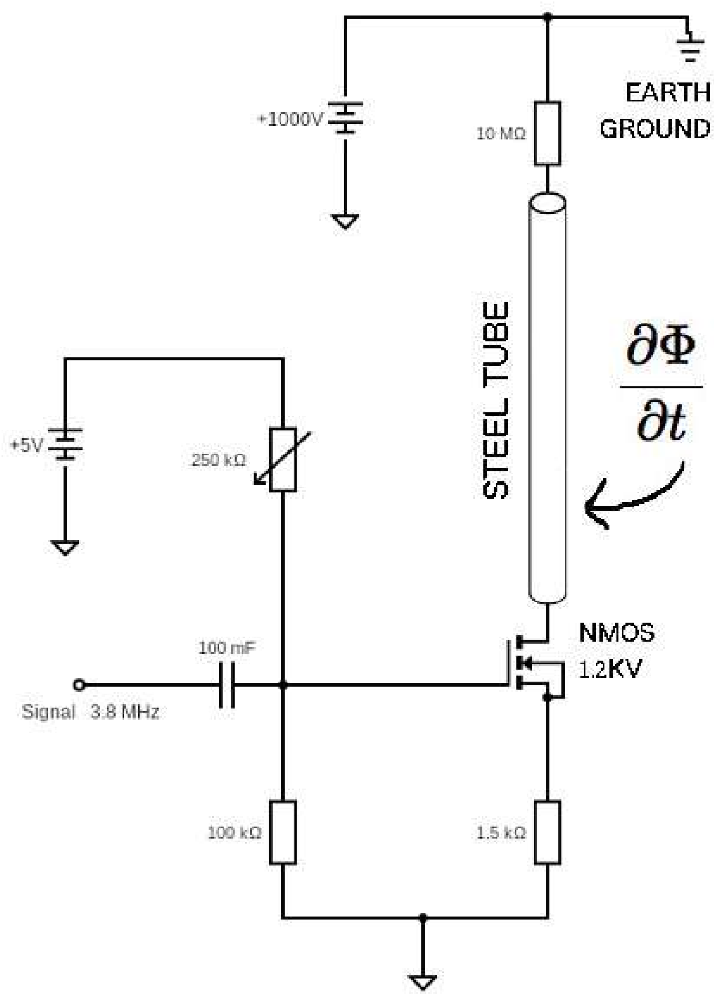
THE ELECTRIC POTENTIAL INSIDE THE TUBE IS PROPORTIONAL TO THE CHARGE.

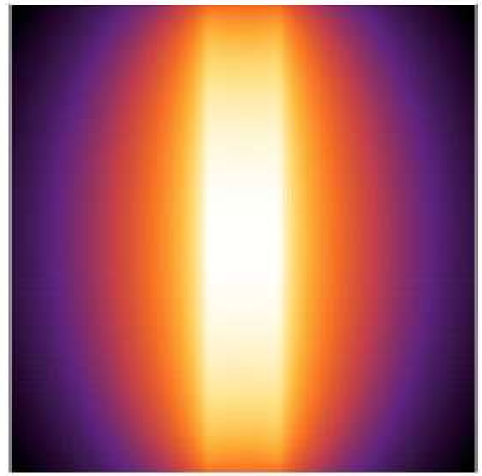


Wiring Diagram

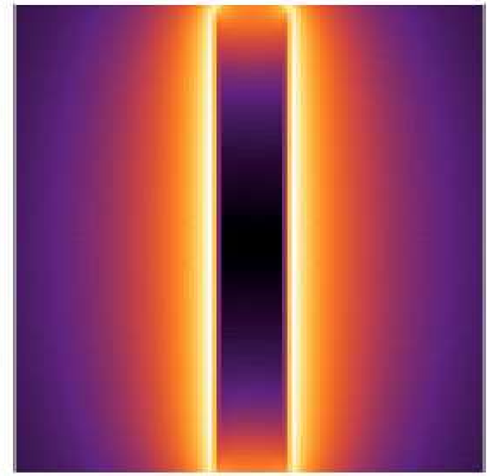
-1 kV, Transistor

Time-Varying Electric Potential of a Metal Tube





Electric Potential



Electric Field

The Charge on the steel tube is varied with respect to time. Thus, the Electric Potential inside the tube is varied.

$$\mathbf{E} = -\boldsymbol{\nabla}\Phi$$

$$\Phi = \textit{Electric Potential}$$

$$\mathbf{E} = \textit{Electric Field}$$

The circuit varies the amount of charge on the center tube. There are a number of ways to achieve this. It could even be done electro-mechanically. As the surface charge density of the tube is varied, so the Coulomb Potential inside the tube varies.

The tube must at all times be charged negative, just more and less so.

The circuit must be grounded into a flowing river. There is a Life Energy present in flowing water ("living water"), which flows up into the tube, as the charge on the tube is varied.

Higher pulse rates may be more effective. Higher pulse rates may be effective, even at much lower voltages (300 V). I am experimenting with an oscillator using at 3.550 MHz crystal (80 meter ham band), at only 20 V.

Maxwell's Equations

$\Phi =$ Coulomb Potential

$\mathbf{A} =$ Magnetic Vector Potential

$\mathbf{E} =$ Electric Field

$\mathbf{B} =$ Magnetic Field

$\text{☥} =$ Life

$$\boxed{\text{☥} = \frac{\partial \Phi}{\partial t}}$$

$$\nabla \cdot \mathbf{E} \propto \rho$$

$$\nabla \cdot \mathbf{B} \propto 0$$

$$\boldsymbol{\nabla} \times \mathbf{E} \propto \frac{\partial \mathbf{B}}{\partial t}$$

$$\boldsymbol{\nabla} \times \mathbf{B} \propto \frac{\partial \mathbf{E}}{\partial t}$$

$$\mathbf{E} = -\boldsymbol{\nabla}\Phi - \frac{\partial \mathbf{A}}{\partial t}$$

$$\mathbf{B} = \boldsymbol{\nabla} \times \mathbf{A}$$

Further Information

https://spaz.org/~magi

https://youtube.com/playlist?list=PL-mwgKssk8XgiZ2rml0ywtLjdg4DR9naP