Seminar One

Dylan

XJTU

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Outline

1. Topic One
   - Converter Valve
2. Electromagnetic Field
   - Maxwell
   - Transmission Line
3. third section

1 Topic One

2 Electromagnetic Field

3 third section

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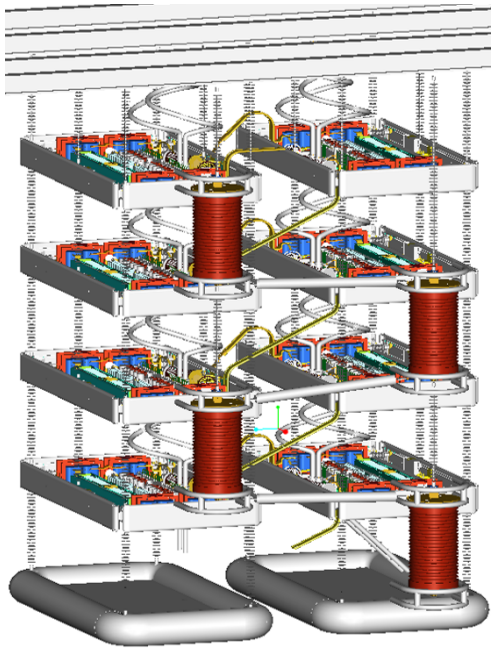
Structure

(a) Real Image



(b) Structure

图: Converter Valve

Layer

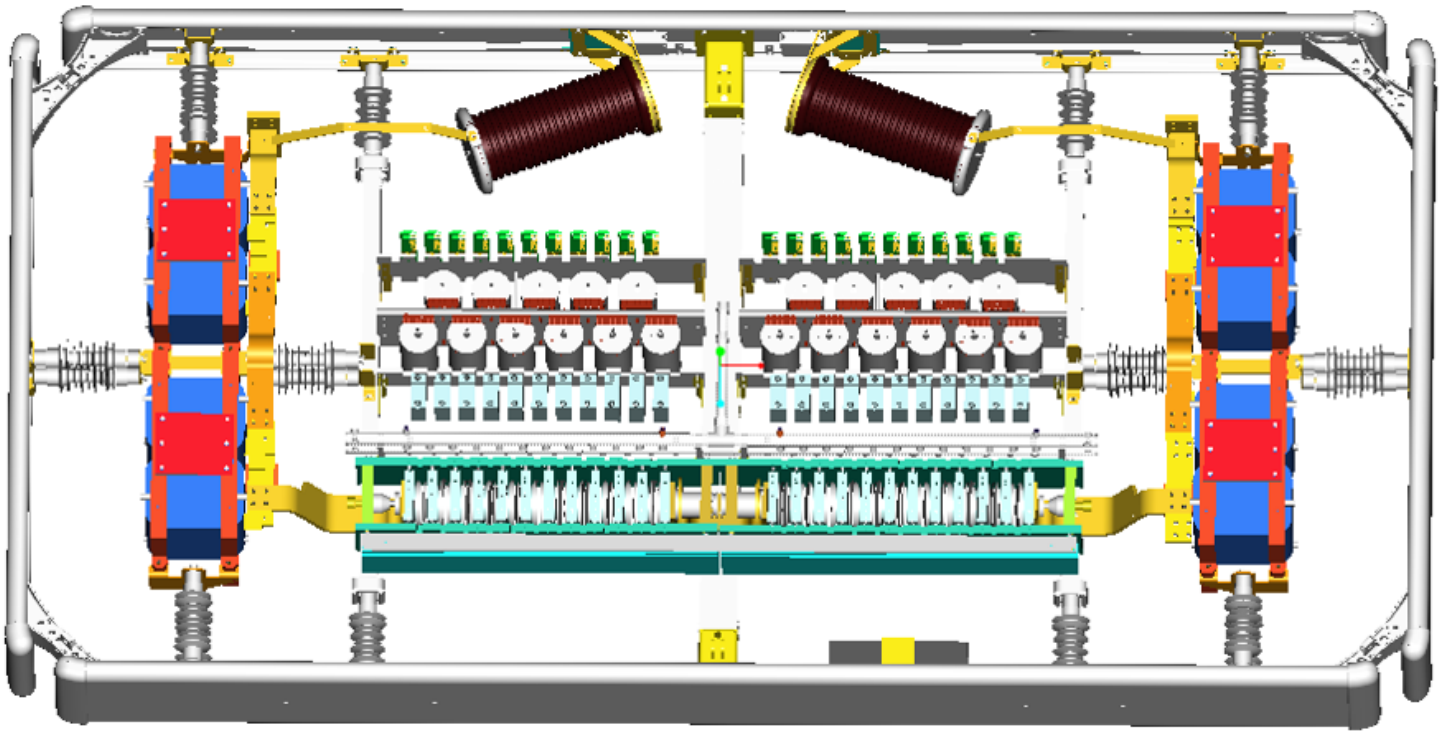


图: Layer

Circuit

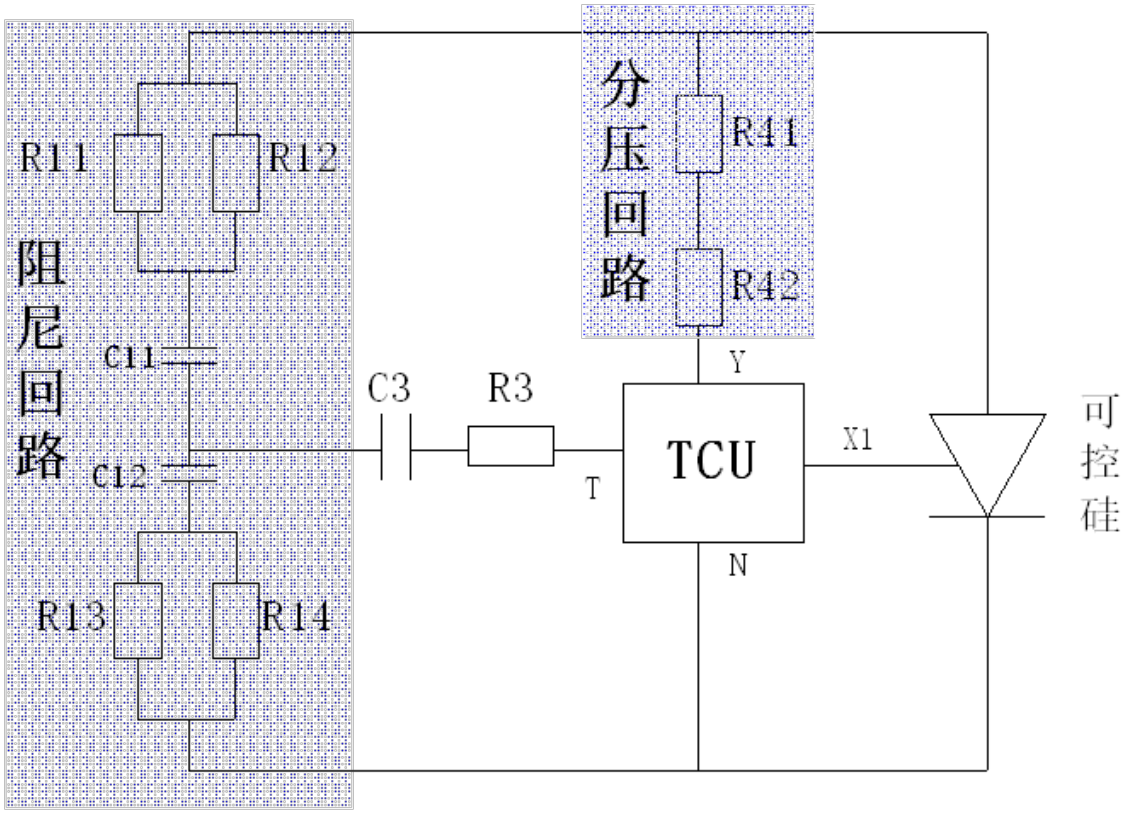


图: Basic Circuit

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Maxwell Equation

$$\oint_l \vec{H} \cdot \mathrm{d}l = \int_S \vec{J} \cdot \mathrm{d}S + \int_S \frac{\partial \vec{D}}{\partial t} \cdot \mathrm{d}S$$

$$\oint_l \vec{E} \cdot \mathrm{d}l = -\int_S \frac{\partial \vec{B}}{\partial t} \cdot \mathrm{d}S$$

$$\oint_S \vec{B} \cdot \mathrm{d}S = 0$$

$$\oint_S \vec{D} \cdot \mathrm{d}S = q$$

关系

$\vec{D} = \epsilon \vec{E} \Rightarrow$ 类似电容的关系

$\vec{B} = \mu \vec{H} \Rightarrow$ 类似电感的关系

$\vec{J} = \gamma \vec{E} \Rightarrow$ 类似电阻的关系

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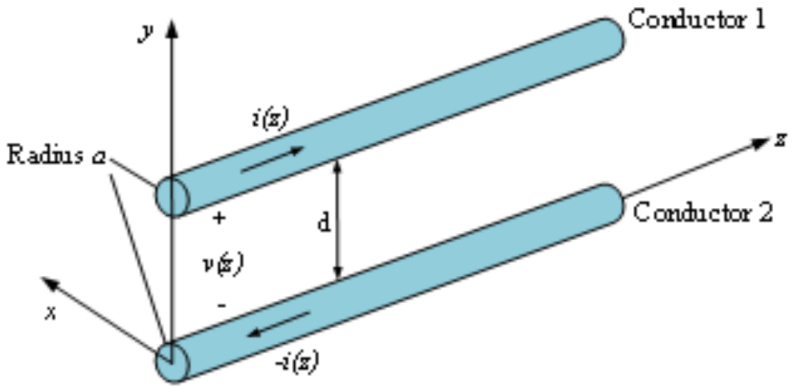
Telegrapher's Equation



$$-\frac{\partial v(z,t)}{\partial z} = R'\, i(z,t) + L'\,\frac{\partial i(z,t)}{\partial z}$$

$$-\frac{\partial i(z,t)}{\partial z} = G'\, v(z,t) + C'\,\frac{\partial v(z,t)}{\partial z}$$

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test information