Seminar One

Dylan

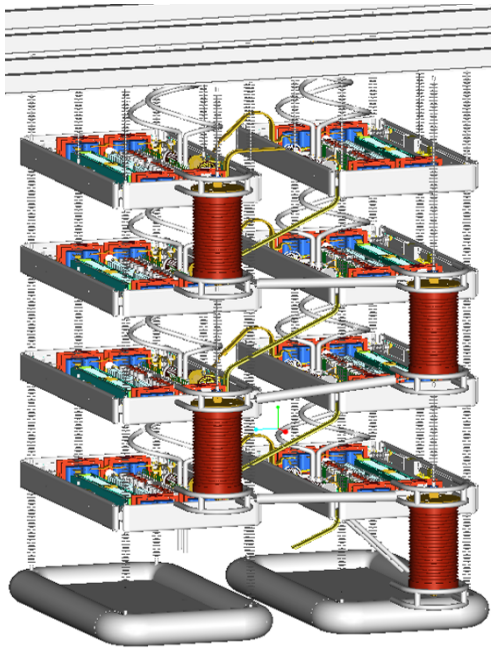
XJTU

2019 年 7 月 14 日

Outline

Structure

(a) Real Image



(b) Structure

图: Converter Valve

Layer

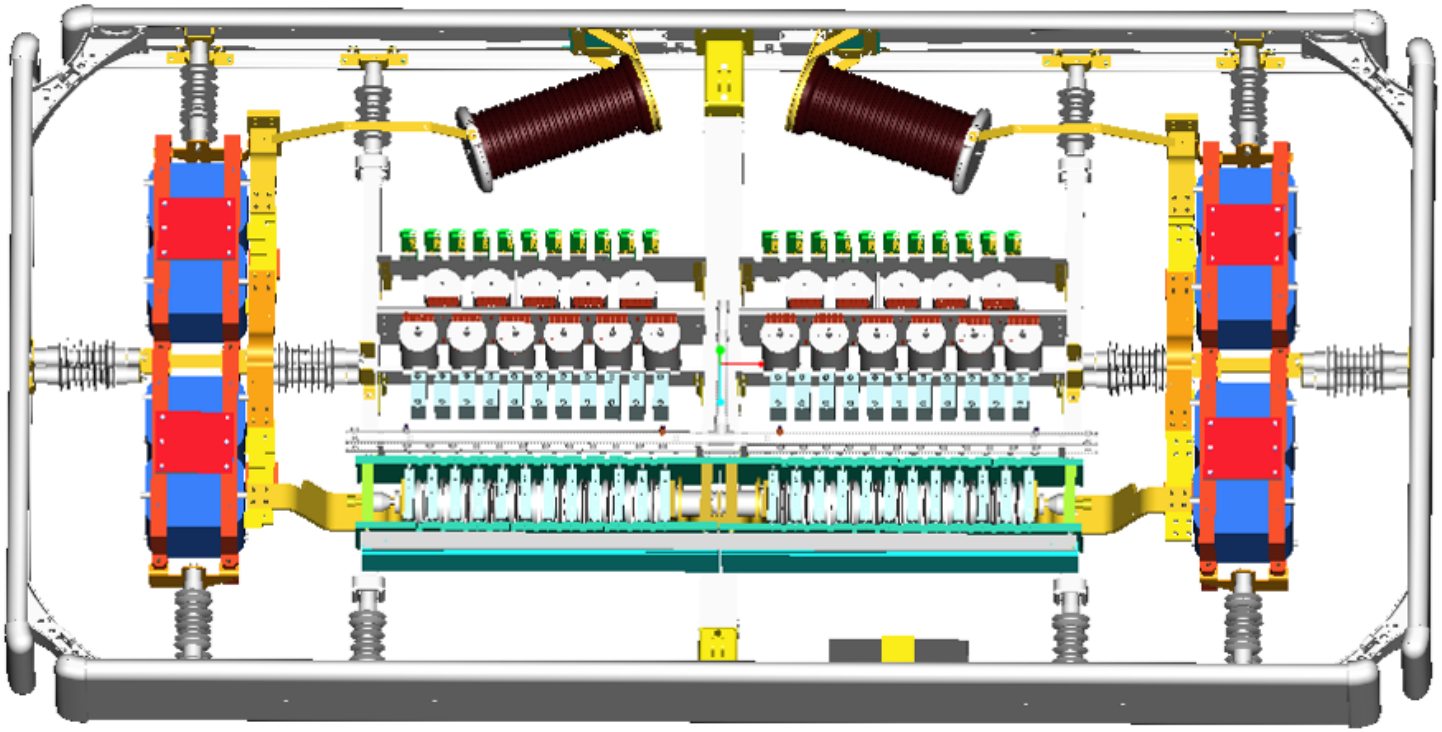


图: Layer

Circuit

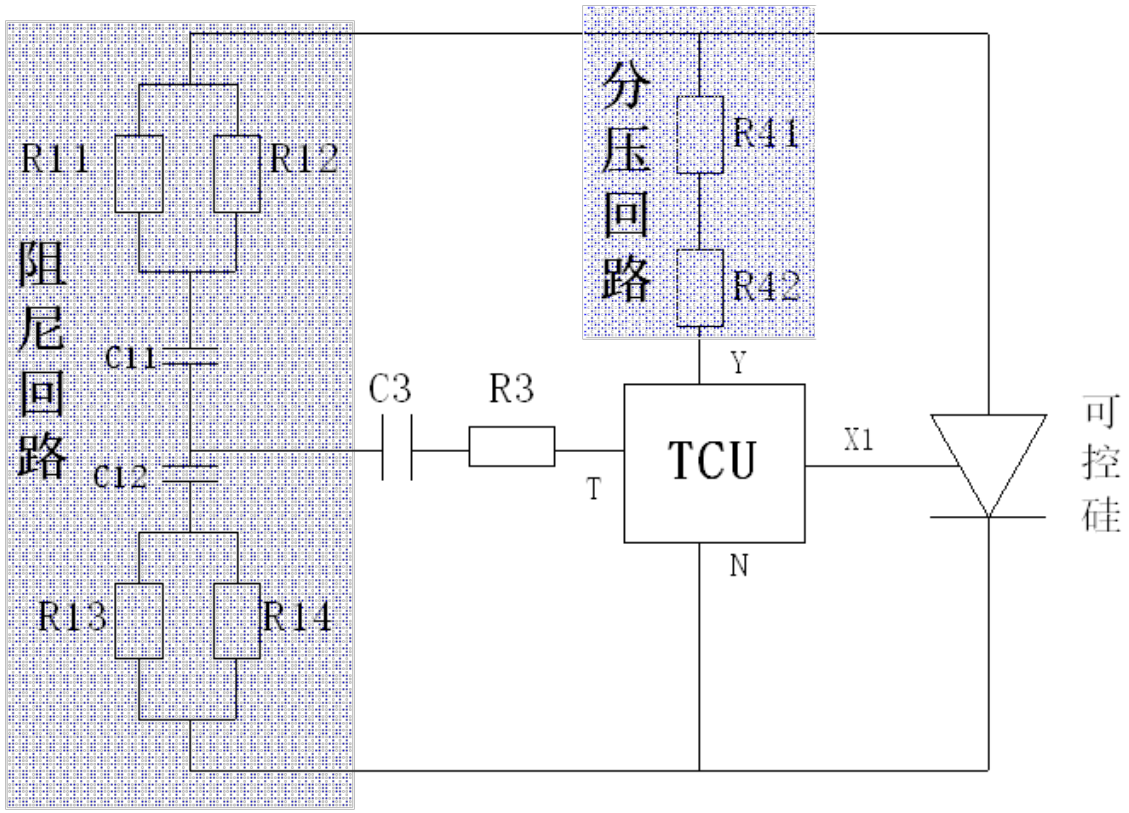


图: Basic Circuit

Maxwell Equation[1]

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

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

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

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

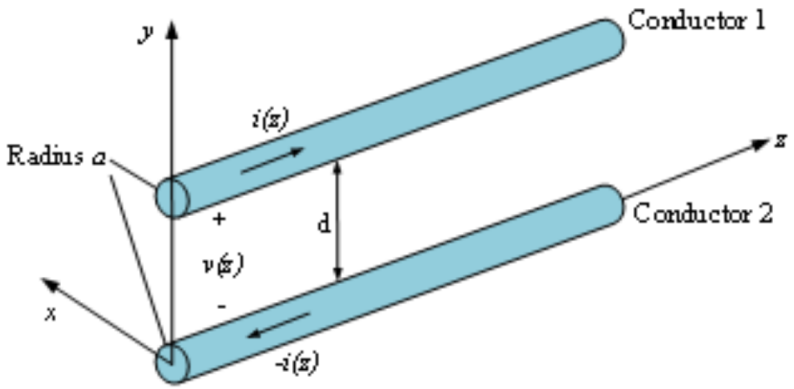
关系

$\vec{D} = \varepsilon \vec{E} \Rightarrow$ 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

Telegrapher's Equation



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

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

3

test information[2]

Reference

- 冯慈璋, 马西奎. 工程电磁场导论[M]. 陕西: 高等教育出版社, 2000.
- 吴锴, 陈曦, 王霞, 等. 纳米粒子改性聚乙烯直流电缆绝缘材料研究( )[J]. 高电压技术, 2013, 39(1): 8-16.

Thank you!