

References:

1. Find main motivation here :
<https://ietresearch.onlinelibrary.wiley.com/doi/epdf/10.1049/el.2017.4176>
2. Find parameters here :
<https://infoscience.epfl.ch/server/api/core/bitstreams/378dd62e-86a0-476d-9125-115915e72670/content>

Summary of parameters:

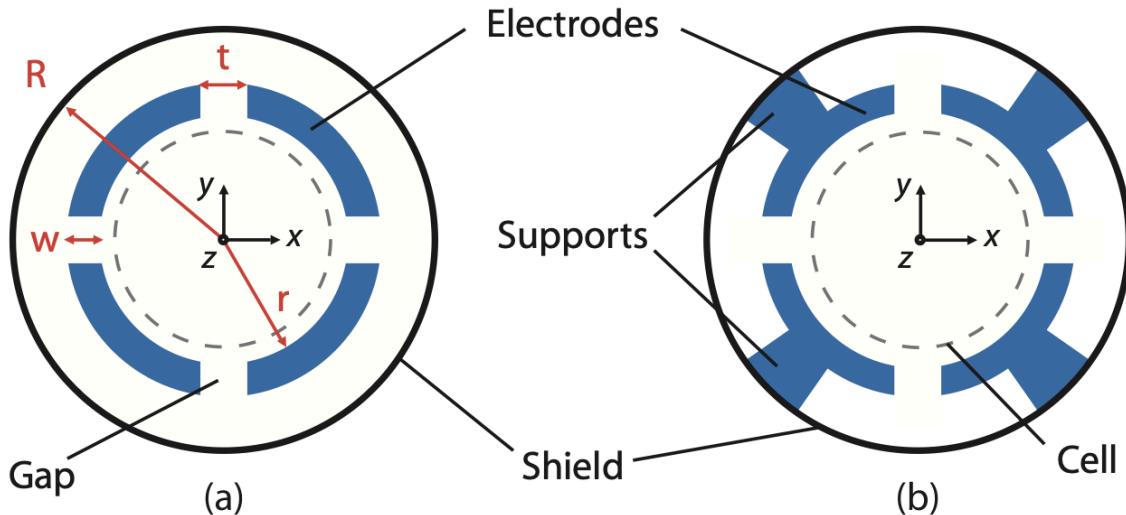


FIG. 2. Basic loop-gap resonator (a) and magnetron cross section (b) with $n = 4$ gaps. The metallic pieces and their separations are identified as electrodes and gaps, respectively. Dashed line identifies the glass cell.

Following paper 2, we'll be using:

Outer cavity radius (shield radius) : $R = 18 \text{ mm}$

Cavity height : $H_c = 20 \text{ mm}$

Vapour cell radius : $r = 12.5 \text{ mm}$ for the 25mm diameter vapour cell.

Electrode thickness : $t = 2.138 \text{ mm}$

$W = 3.8 \text{ mm}$

Number of electrodes : $n = 6$

These parameters are chosen based on the higher diameter Rb vapour cell. As [2] explains, this larger diameter allows for a higher quality factor and allows greater number of interrogated atoms with the standing microwave fields, and gives a better S/N ratio. This ratio improves the shorter-term frequency stability of a clock.