Intelligent Surfaces for 5G and Beyond Wireless Communications
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Designing Efficient Reflective Surfaces Wireless Communication
This work presents a novel design for efficient reconfigurable reflective surfaces which can improve radiation efficiency

In our approach, we are designing a multilayer stacked structure, which requires via as an interconnect between the top layer and the bottom layer wherein the biasing lines for the PIN diodes will be placed.

Why do we care about interconnects?
- Vias produce discontinuity from the signal transition and significantly affect signal performance.
- Parasitic capacitance of via can further shift the frequency of resonance.
- A good impedance transition must be made from the transmission line trace to the via.

Design Process:
I) Step I: 1-bit Reflect array unit cell.
II) Step II: Integration of Via with Unit Cell

References:

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