

At DCARC meeting, Blue Moon Diner, 2017 Nov 1 revised 2017 Nov 11

Agenda for the antenna session.

We will need the variable # element UHF Yagi, a ~~VHF~~/UHF 5 W hand held radio, my UHF ~~and~~ ~~VHF~~ dipole/lamp loads, my 2 element ~~V~~/UHF Yagis (I have two), a UHF scatterer (small cookie tray), and the optical polarization components. For back-up use Field Strength meter. **Show meter using video camera to screen.**

564 THz polarization experiment: See Figure 3.5 next page.

Equipment: optical polarizing “filters”, 564 THz source.

V-pol to variable pol; (3.5a)

H-pol to V-pol; (3.5a)

H-pol to [45 deg pol] to V pol; (3.5b)

[Feedback] Do this sideways to audience and high enough to see (via camera?)

UHF polarization demo

Equipment: w4rq UHF Yagi, ke4pt scatterer, ke4pt dipole/lamp load, .

w4rq UHF Yagi to ke4pt UHF dipole/lamp, plus scatterer in between

[Feedback] Do this sideways to audience and high enough to see)

Antenna patter / gain

Equipment: w4rq UHF Yagi, ke4pt dipole/lamp load

w4rq UHF Yagi (various # of elements) to ke4pt UHF dipole/lamp.

Antenna losses, hand-held to dipole/lamp

Equipment: ~~VHF~~/UHF handheld, stubby antenna, UHF radio dipole, ~~VHF radio ke4pt dipole,~~ ~~VHF and~~ UHF dipole/lamp loads.

~~VHF~~: stubby; quarter-wave; ke4pt dipole (Yagi) — to dipole/lamp load

UHF: stubby; ke4pt UHF radio dipole — to the ke4pt dipole/lamp load

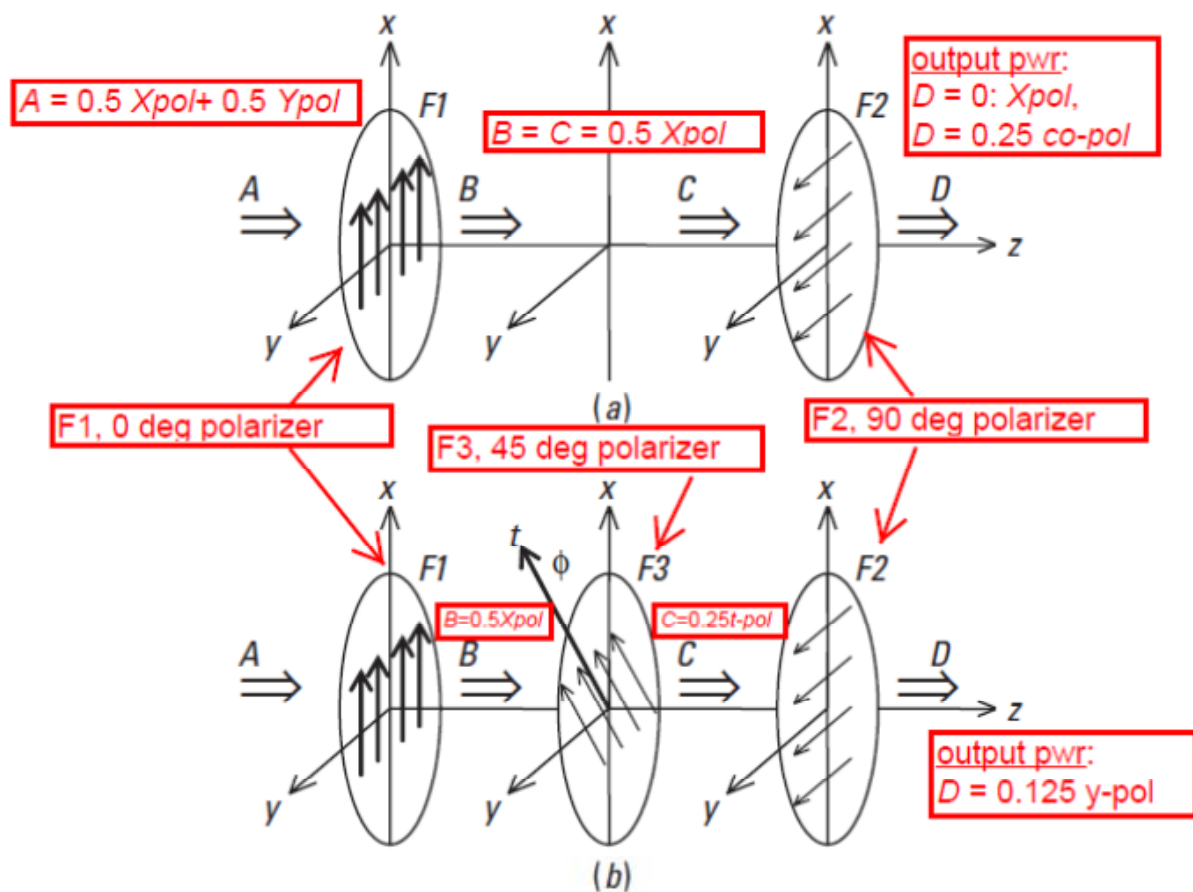


Figure 3.5 Polarization filtering at optical frequencies (a) without, and (b) with an intermediate filter. $F3$ represents the scattering in the environment.

Repeat this experiment at UHF with a UHF transmitting Yagi at $F1$, a receiving dipole or Yagi at $F2$ [connected to a signal strength instrument], and Ann's cookie trays at $F2$. The cookie tray is a 14 inch by 12 inch wire grid with wires in one direction ONLY.