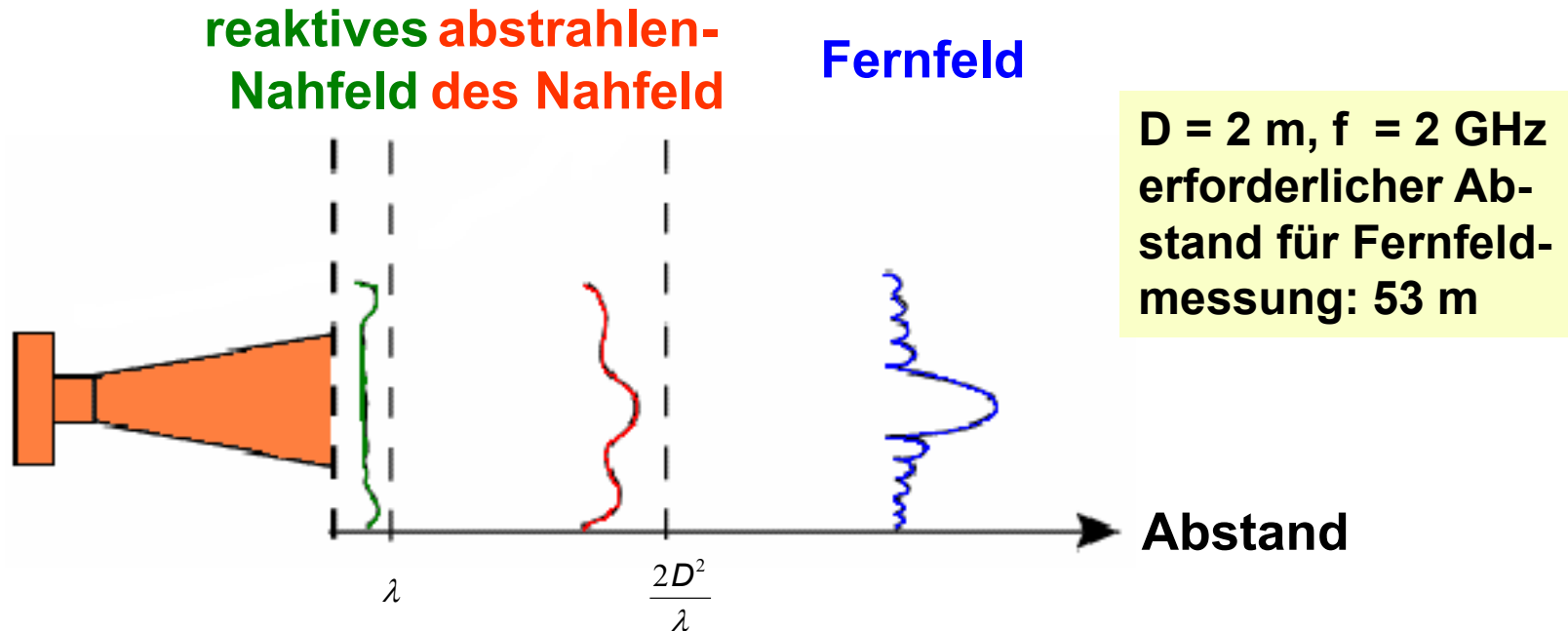


# Antenna Nearfield Measurement

by Thomas Zwick

INSTITUT FÜR HOCHFREQUENZTECHNIK UND ELEKTRONIK

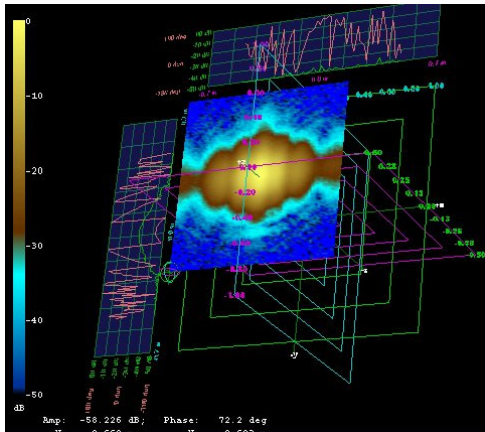
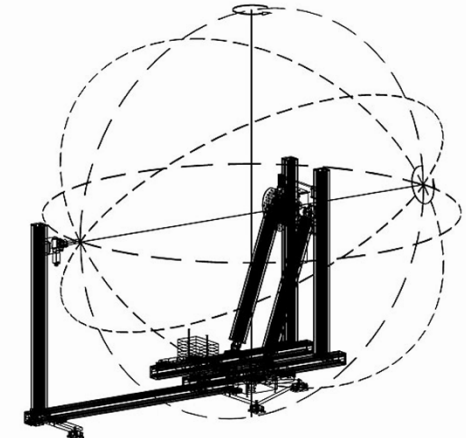
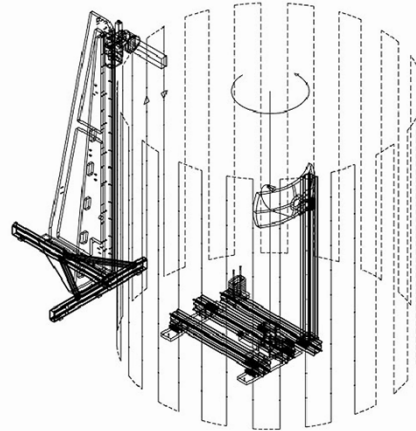
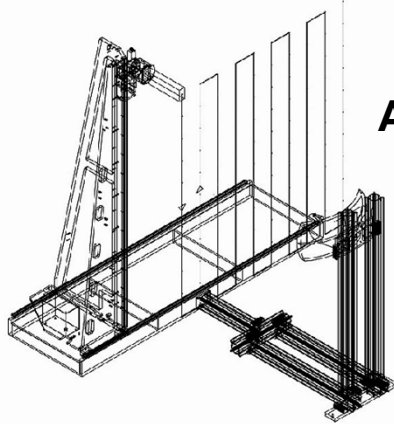




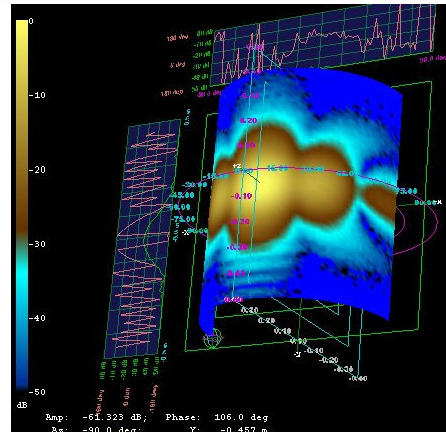
# Nahfeldmessung: Abtast Geometrien (Scan)

Probe

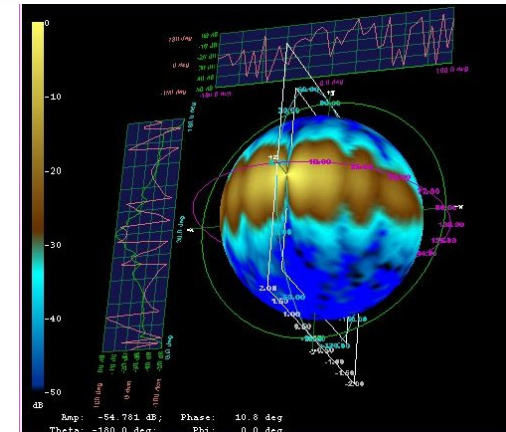
AUT



planar

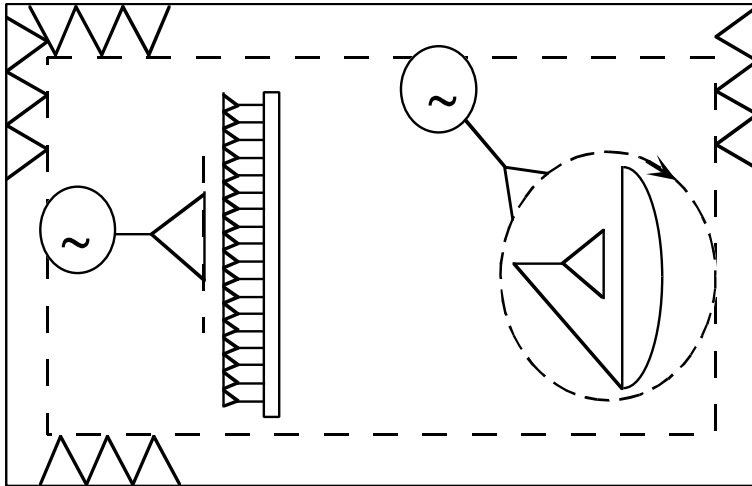


zylindrisch



sphärisch

# Planar Near Field Measurement

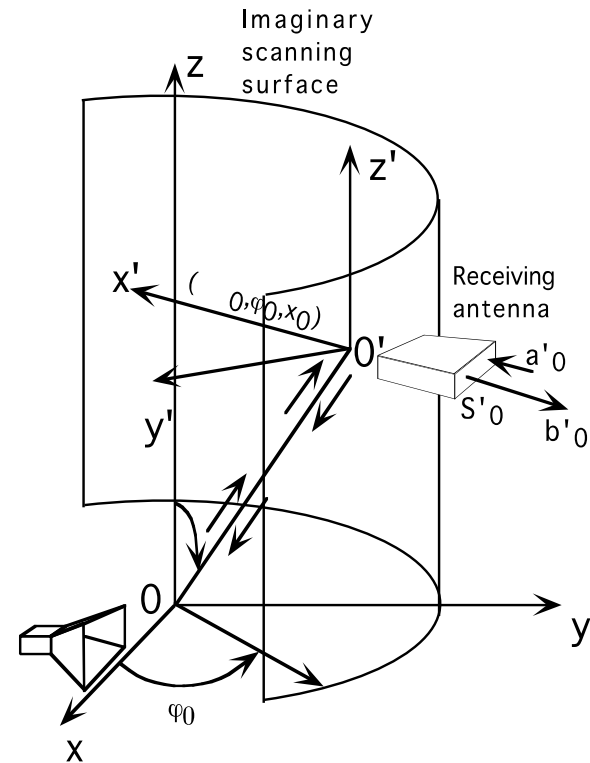
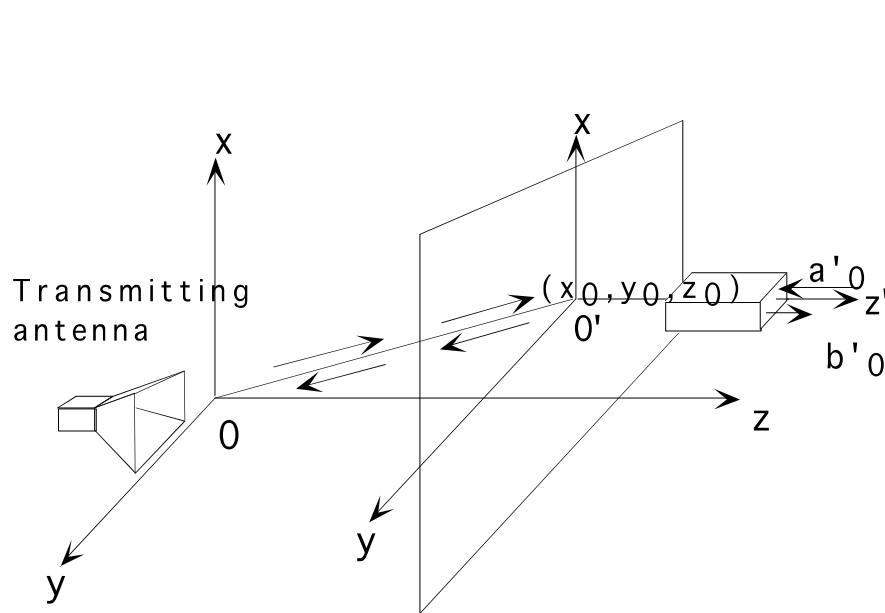


⇒ 3D - Pattern

- scanning a field probe over a preselected surface (plane, cylinder, sphere)
- measured near field data transformed to far field by analytical Fourier transform methods
- complicated and expensive systems
- extensive calibration procedures
- high sophisticated computer software



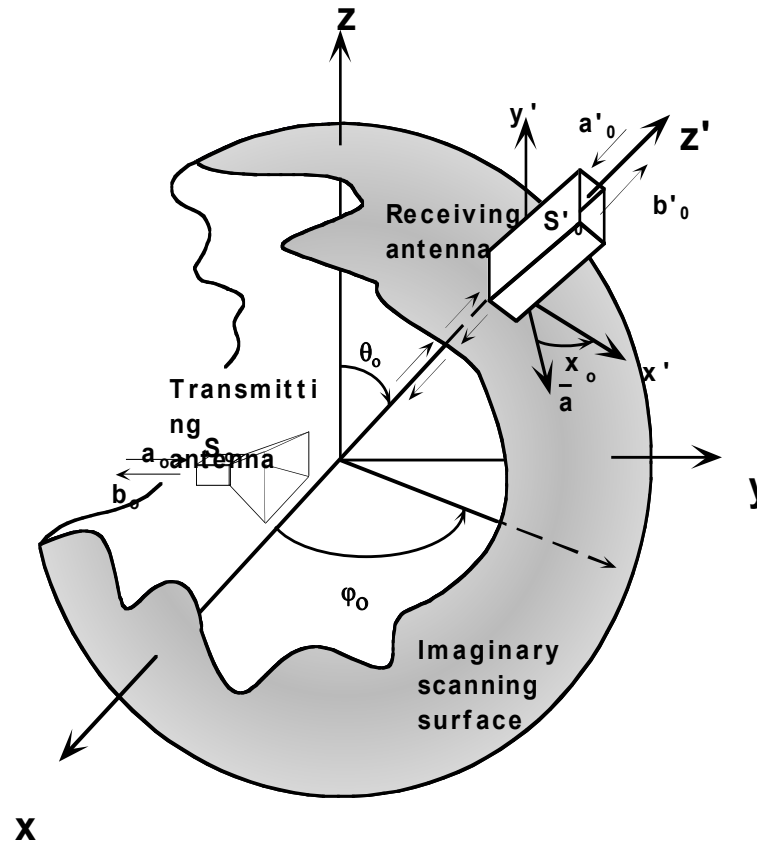
# Cylindrical Near Field Measurements



- best suited for high gain antennas (phased arrays)
- least amount of computations

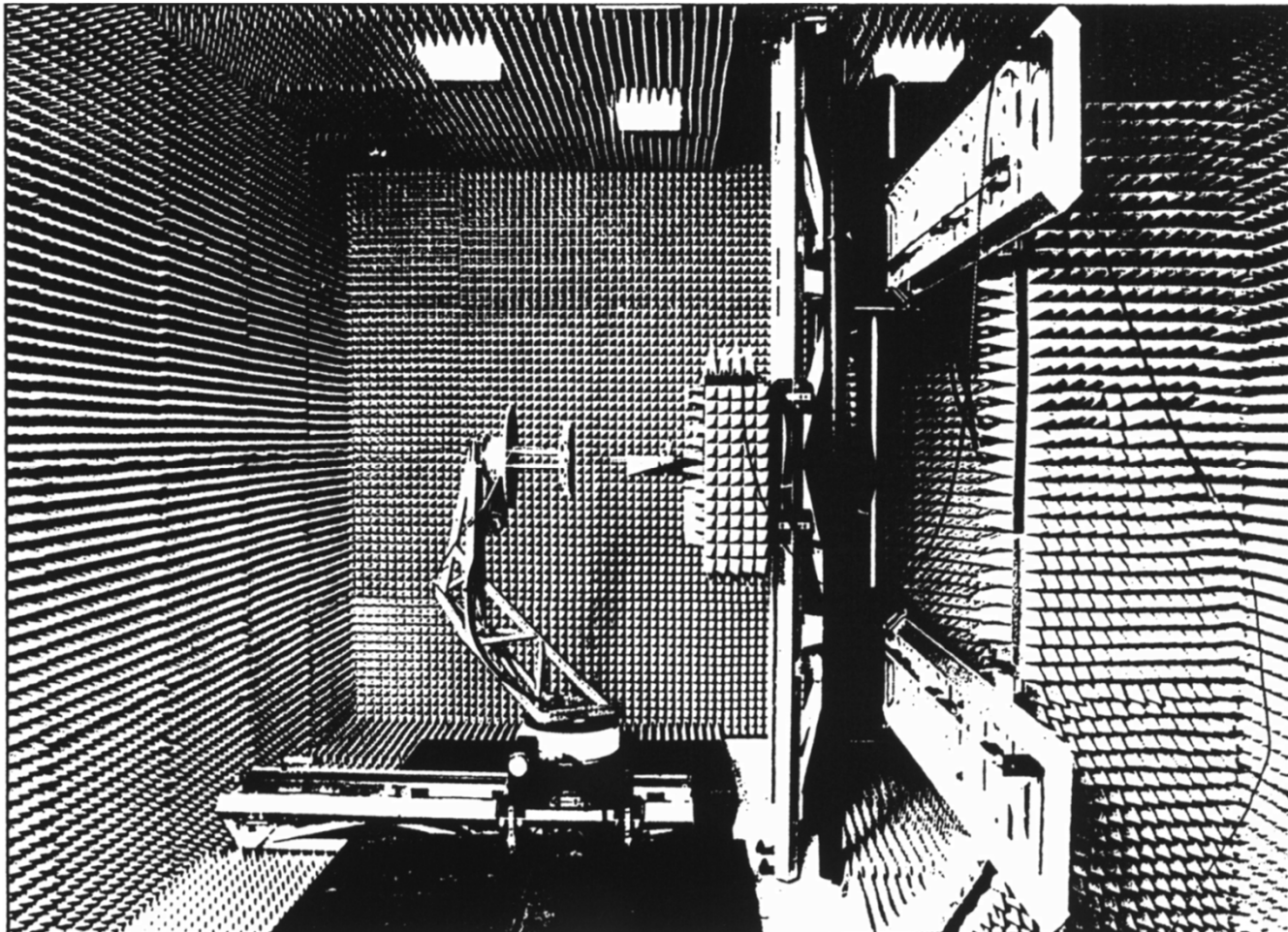
- for many antennas measuring, positioning and probe equipment least expensive
- 50% more computations than planar systems

# Spherical Near Field Measurements



- best suited for low gain and omnidirectional antennas
- most expensive computation, antenna and probe positioning equipment

# Nearfield Measurement System



ARAMIS near-field antenna test facility