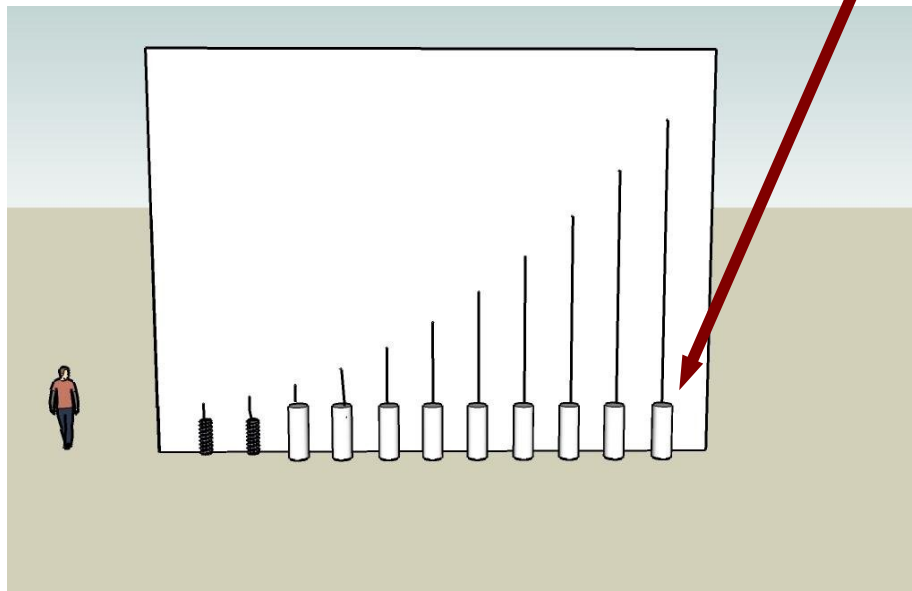
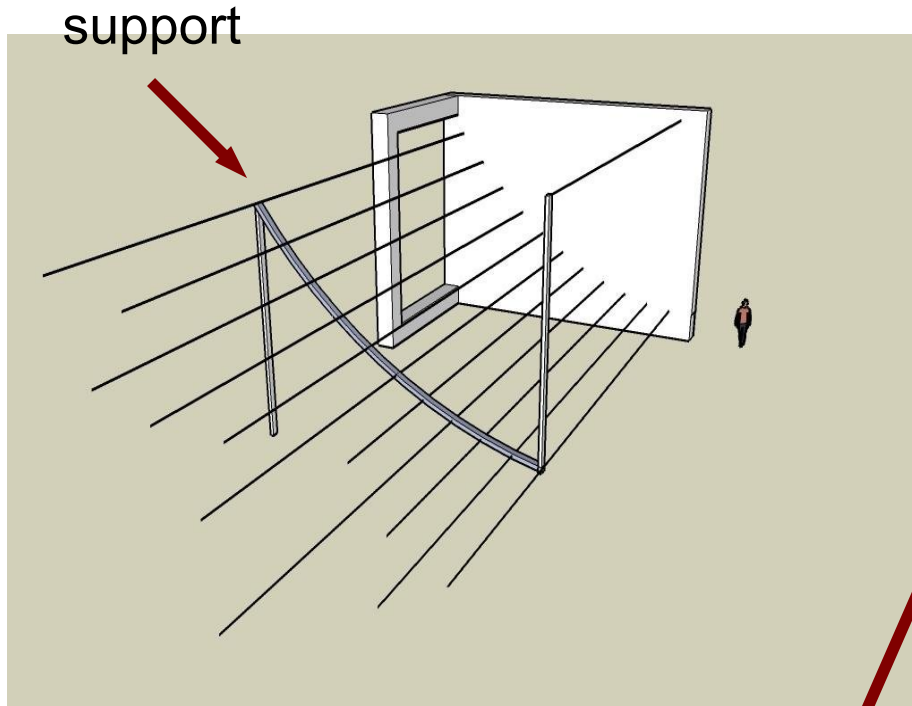


CRT design requirements

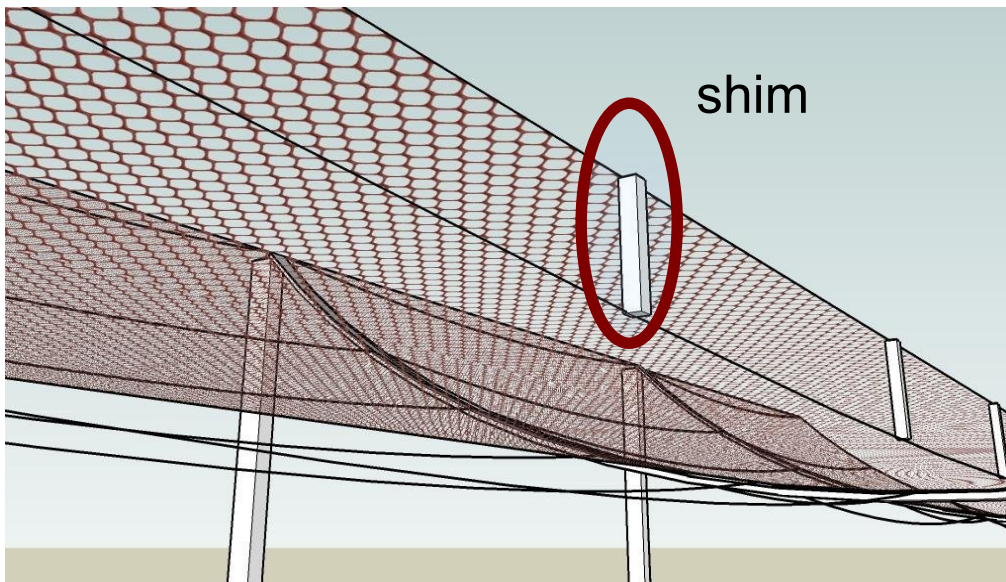
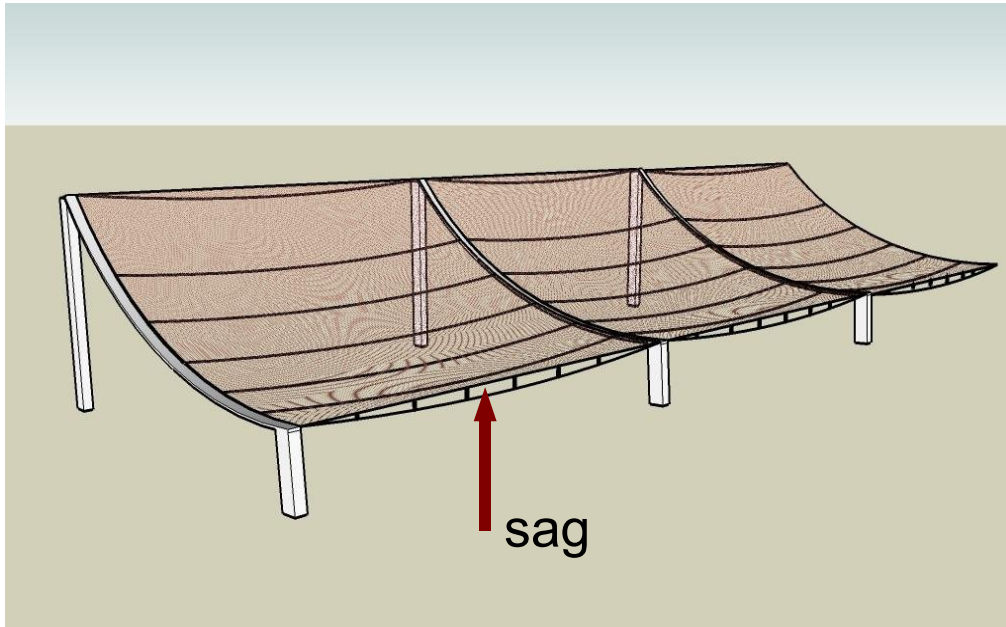
- $\lambda = 40 \text{ cm}$, 750 MHz
- 130m long, 100m used, 11m width, 8 cylinders
- Need 0.5 cm RMS (but could live with 1 cm)
 - One feed “sees” 20 m N-S \rightarrow 0.5 – 1 cm
 - Calibration may correct up to 10 cm / 130 m
- -10 C (at night) to 50 C \rightarrow 60 C dilation
- Resists wind speed over 100 km/h ?

Design 1



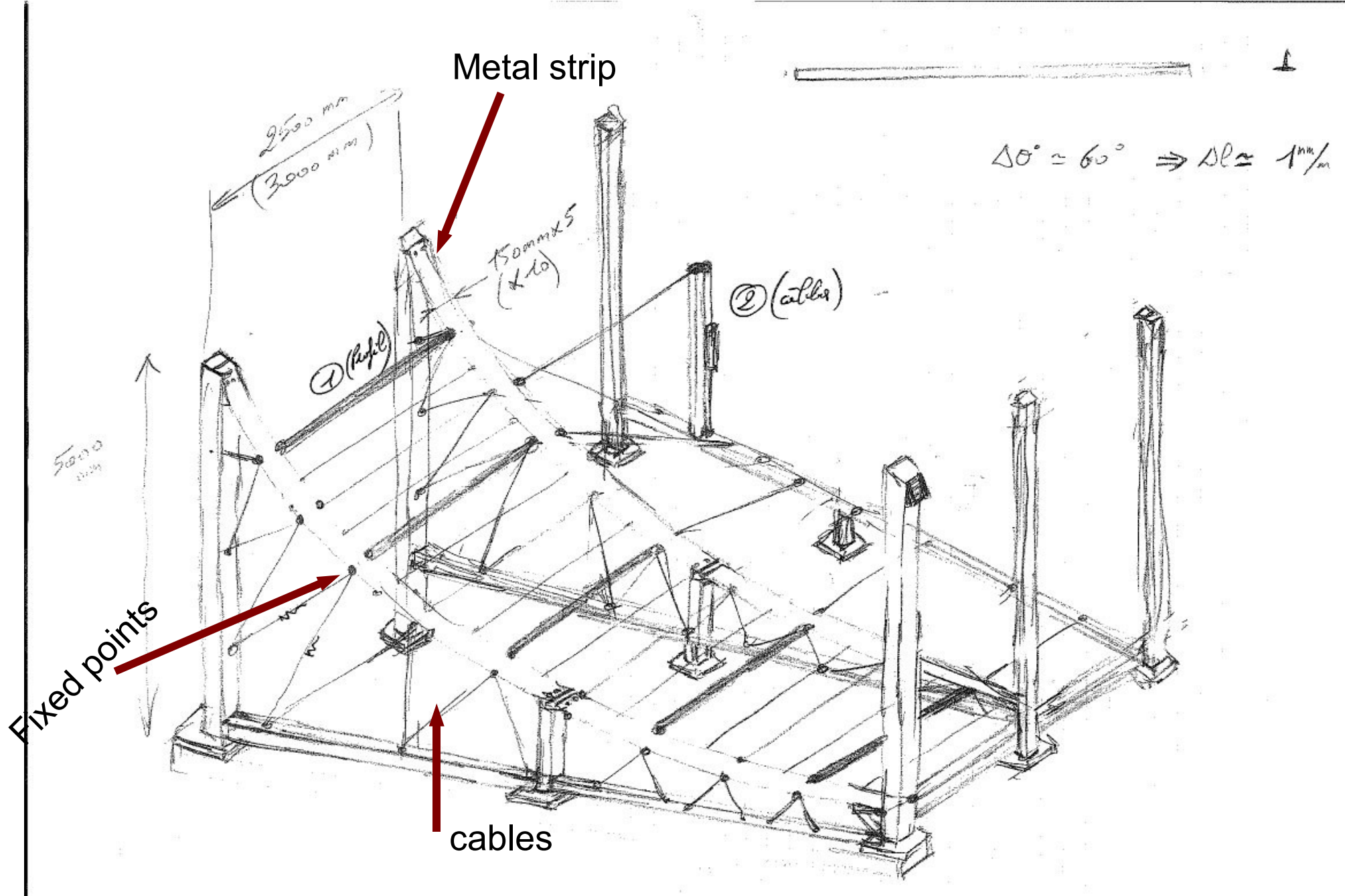
- 12 mm cables spaced by 50 cm
- Strung by 500 kg weights
 - compensate for thermal dilation (13cm/130m)
- Mechanical OR concrete structures (10m distance) to support cables and give the parabolic shape

Design 1



- Need to correct for the sag
- 5m -> 2.5 cm sag
- Use calibrated shims
- Could it be simplified ?
 - Do we need the shims ?
 - Put more supports ?
 - Supports price dominate the cost !

Design 2



Design 2

- Parabolic shape using spring steel strips
 - Compute fixation points and cable tension to get parabolic shape
 - Light structure
 - Easily portable
- Good modularity (increase length to km ?)
- Off the shelf mechanical parts
- Currently under study
- We need the parabola equation to be able to finalize the study

Mechanical Studies

- 2 engineers from Saclay design department on charge of the (pre-)studies
- Dimension and constraint computations are under way
- Cost estimation of the 2 designs performed by the same person
- Answer by the end of November
- First cost guess indicates that 200 \$/m² will be **very very** difficult to achieve, despite the fact that the 2 designs are quite simple
- Is the line feed cost negligible ?
- **Shall we plan a meeting by the end of November with the engineers ?**