

# Some Uncontroversial Remarks

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*There is a tide  
In the affairs of Man*

*Which, taken at the flood,  
Will lead to riches etc*

*But...*

William Shakespeare

# The puzzling tide against Aperture Arrays

- Moving parts
- The price of metal
- Multi-beaming
- Etc, etc
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- “SKA with dishes: What was that all about?”

# But: the tide is turning

- LOFAR exists
  - This makes a LOT of difference in the debate
- Mike Garrett:
  - ...(some very rousing stuff)...
- Alistair MacPherson:
  - “Don't be so defensive about AA”
- Jan Geralt bij de Vaate:
  - “MFAA == SKA”

# We have wasted a lot of time

- It is good to have a bread-and-butter solution
  - Vivaldi
- And the LNA looks very promising
  - 40K over 600 MHz is definitely competitive
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- But there must be better frontend solutions
  - Sensitivity, bandwidth, scan angle
  - Beamshape stability (calibration)
  - Manufacturability (cost)

# Fortunately...

(thanks to the arcane SKA process)

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- There is still some time for SKA2
  - MFAA is lucky to be excluded from SKA1
  - The MFAA consortium can approach things differently
- But not very much (a few years)
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- How can we use the time most effectively?

# Let more people have a go

- 500 BC:
  - Alphabet, cheap paper
- 1500 AD:
  - Bookprinting, protestant education
- 1850 AD:
  - Industrial revolution, educating the lower classes
- 2000 AD?

**Bottom line: Maximum progress if many more people are involved in thinking about things.**

# How to create the conditions?

(i.e. offer the lowest threshold for participation)

- We are talking about a MFAA frontend only
  - Converting the signal to a voltage in a wire
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- Promise an award?
  - That seems to work with robot development
- Provide a backend and an interface?
- Offer EMMA++?
- Other...?