MIDPRED Workshop

PIRSES-GA-2013-612599

ASTRON, Dwingeloo

March 31st & April 1st 2014

This research was supported by a Marie Curie International Research Staff Exchange Scheme Fellowship within the 7th European Community Framework Programme under Grant Agreement: PIRSES-GA-2013-612599

Management Work Package Overview

- to Coordinate and Manage MIDPREP addressing communication, reporting, financial (to EC and partners), quality (with respect to achieving the objectives at the appropriate level) and formal collaborative issues as a result of and related to the program.

- to have three annual workshops to exchange and disseminate ideas and communicate results more widely with all partners and collaborators in the context of Aperture Arrays and Ultra-Wide Band Single Pixel Receivers. These will be held in Sweden, South Africa and the Netherlands respectively.

- to establish views on next collaborative and solidifying steps involving Industry to ensure adequate and relevant knowledge and input and a smooth transition to the next (engineering)phase with a larger emphasis on implementation.

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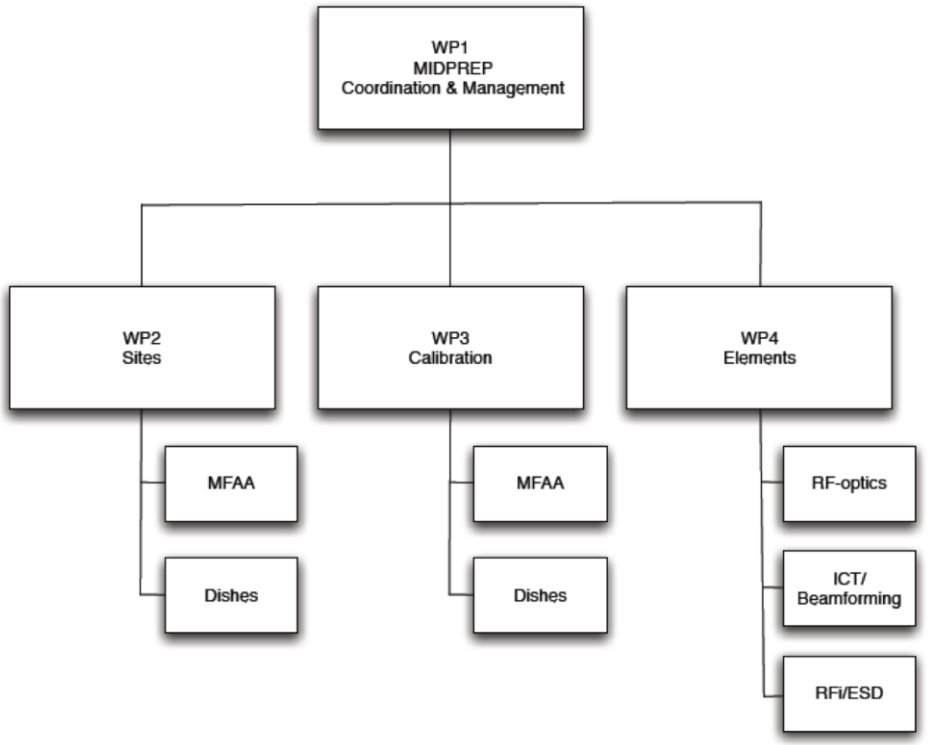
Organization



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Information for Seconded Researchers

- Every secondment within MIDPREP needs an invitation letter. These letters can be obtained at:
- For seconded researchers only a limited number of things are asked:
- * A contribution to the deliverable in the MIDPREP project. Before your secondment starts the task leader and possible the Work Package Coordinator will specify what exactly is needed to contribute to the deliverable. Usually this will be a report about a topic specified in the MIDPREP DoW.
- * Before leaving we ask a short CV, we need this to evaluate the criteria for Early Stage Researcher or Experienced Researcher.
- * A copy of you plane-ticket. This can be a link or an email.
- * Your main adress during secondment

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Information on the Program

WWW.ASTRON.NL/MIDPREP

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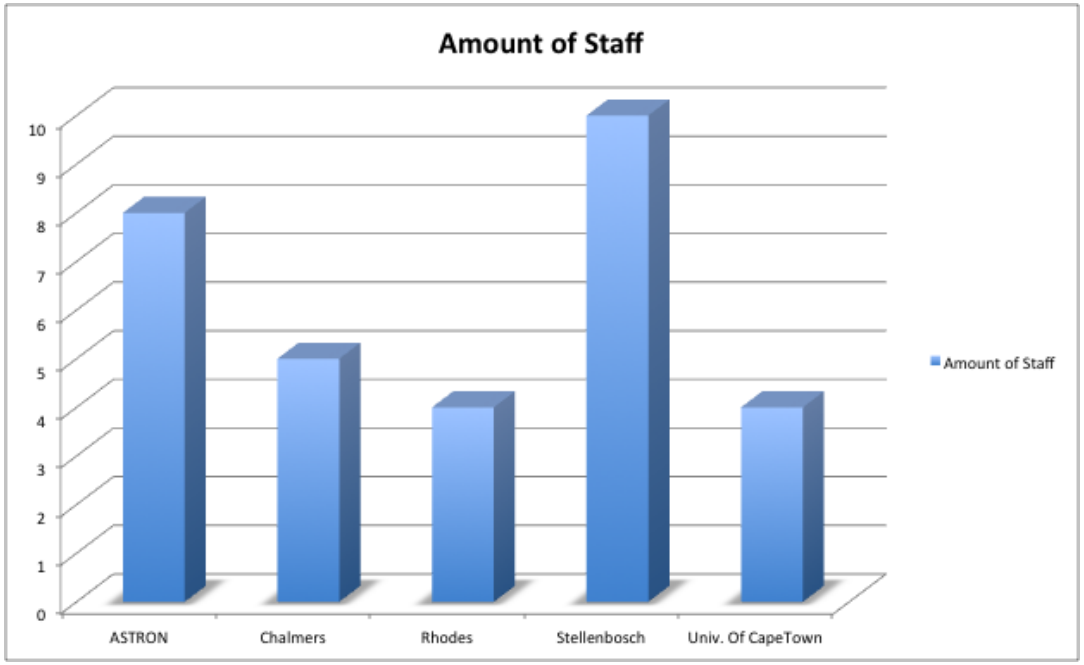
Overview of Secondments



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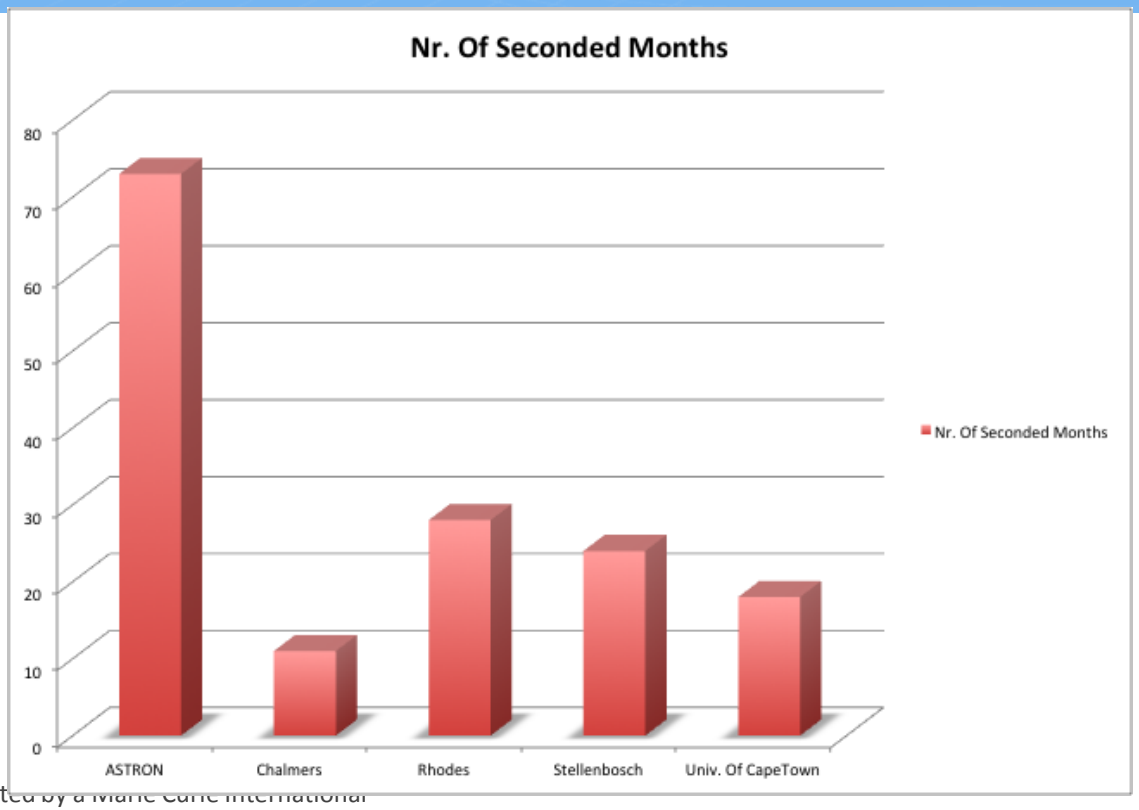

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ASTRON CHALMERS

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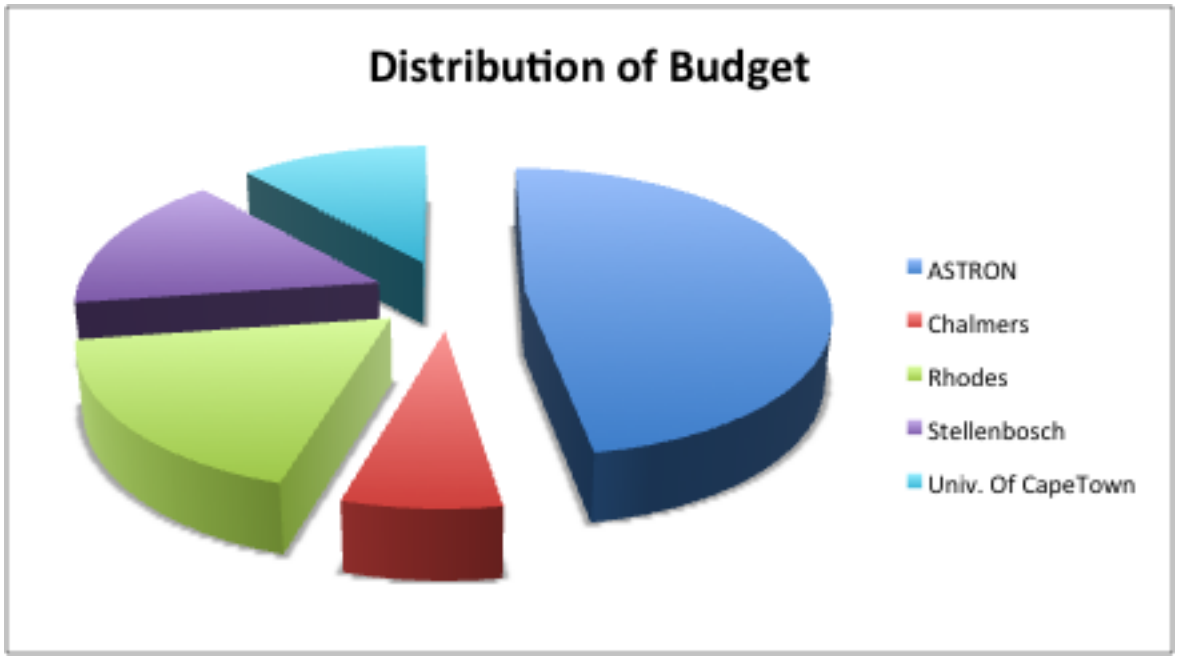

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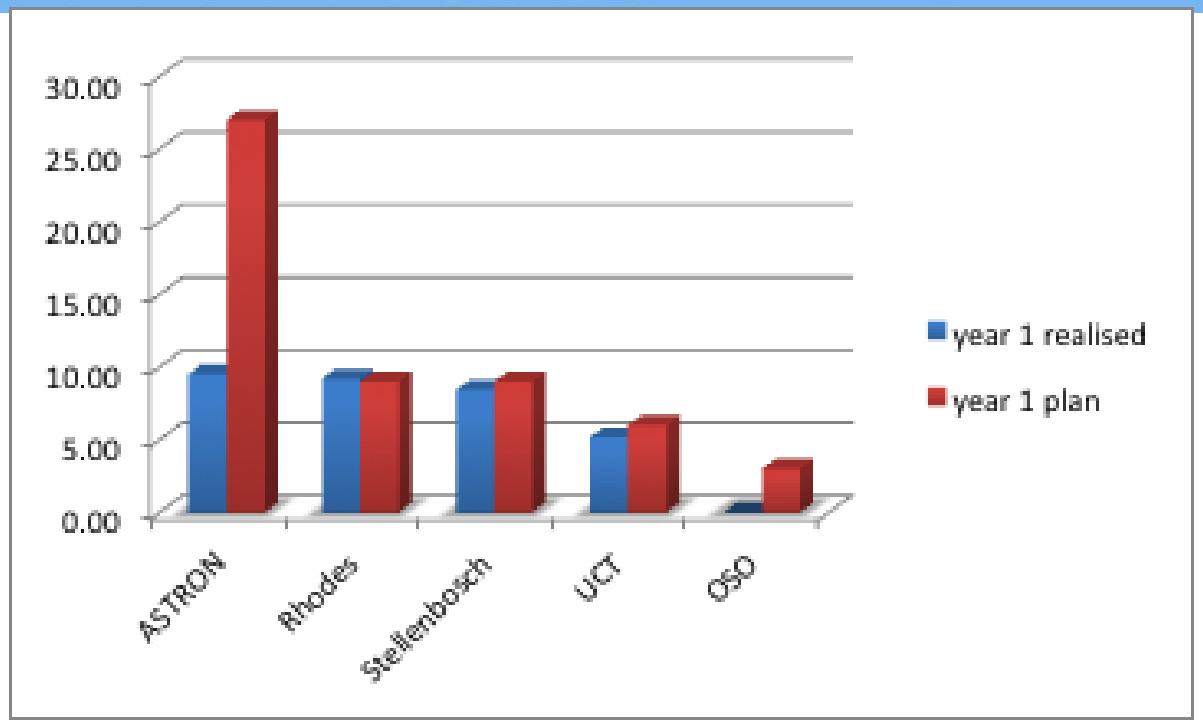
SEVENTH FRAMEWORK PROGRAMME

MARIE CURIE ACTIONS

Secondments year 1



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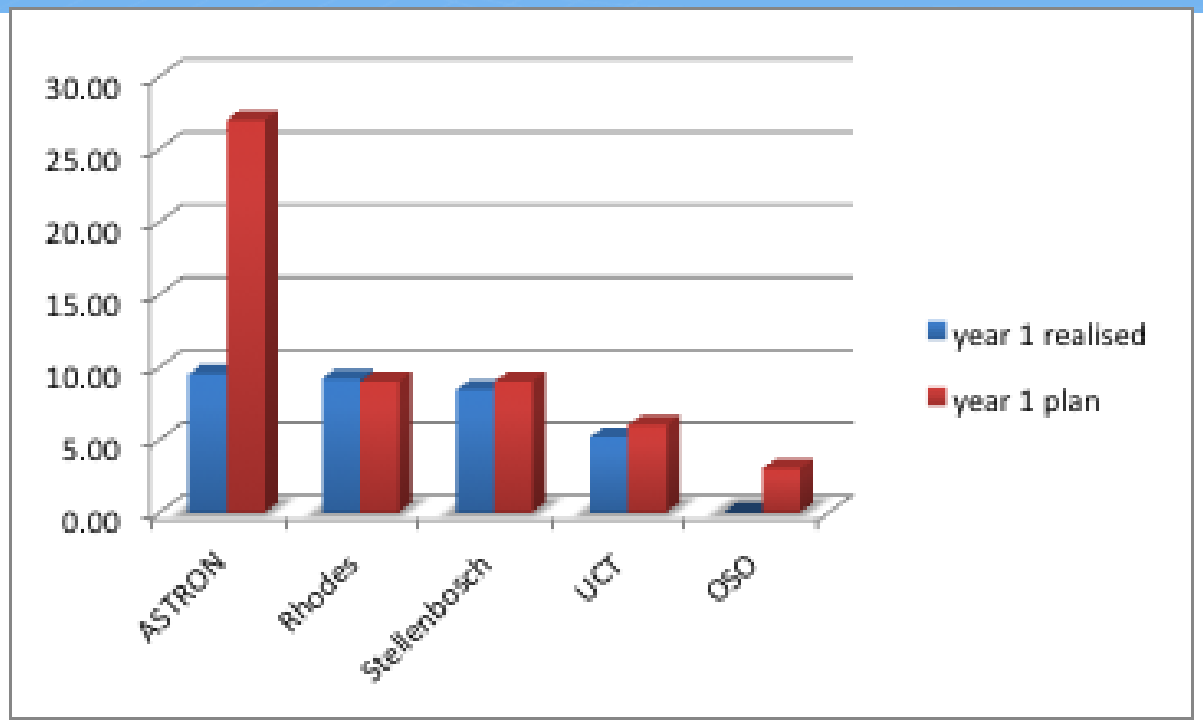
Secondments year 1



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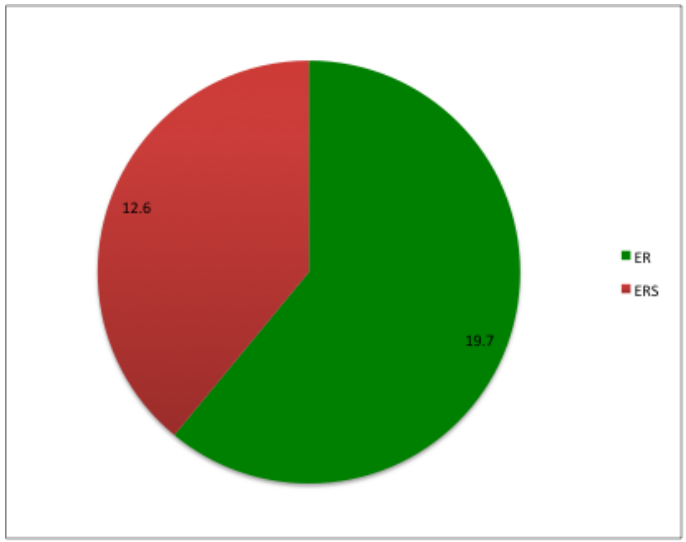
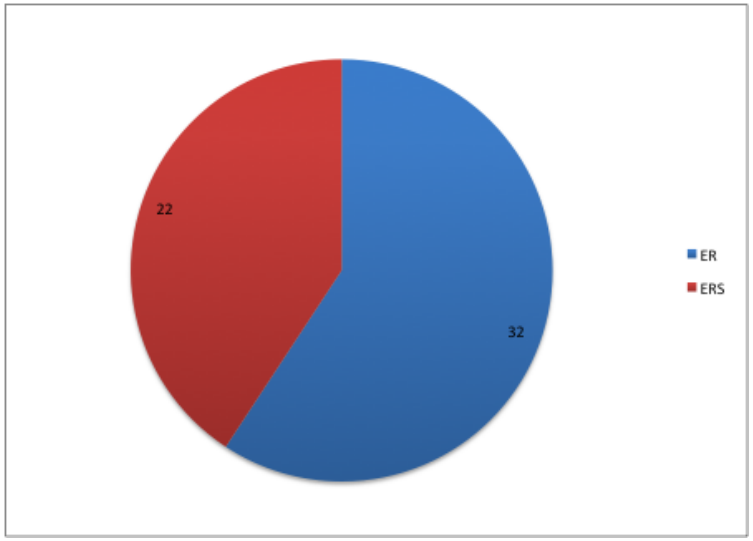
Distribution ER/ESR

Actual



Planned



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List of Milestones

List and schedule of milestones					
Milestone n°.	**Milestone name**	**WPs n°**	**Lead *Beneficiary*/ Partner organisation short name**	**Delivery date**	***Comments***
1	Kick-off	1	ASTRON	T0	In first month
2	Workshop 1	1	ASTRON	T0+10	First years WS
3	Report 1	1,2,3,4	All	T0+12	
4	Workshop 2	1	ASTRON	T0+22	Second Years Workshop
5	Report 2	1,2,3,4,	All	T0+24	
6	Workshop 3	1	ASTRON	T0+34	Third Years Workshop
7	Final report	1,2,3,4	All	T0+36	Single report to EC

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Aims of MIDPREP

- Not exchanging researchers between Africa and Europe
- To build a community of engineers and scientists working on technology and science for SKA (2) by:
  - Exchange of knowledge
  - Disseminate ideas and knowledge (a.o. through workshops)
  - Establish common views on the next steps in the process

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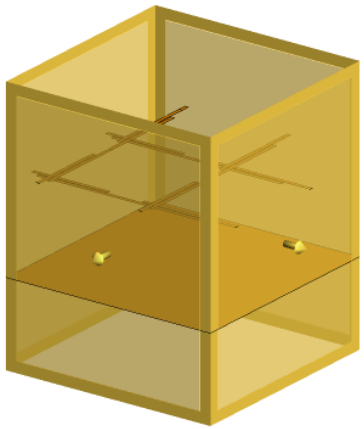
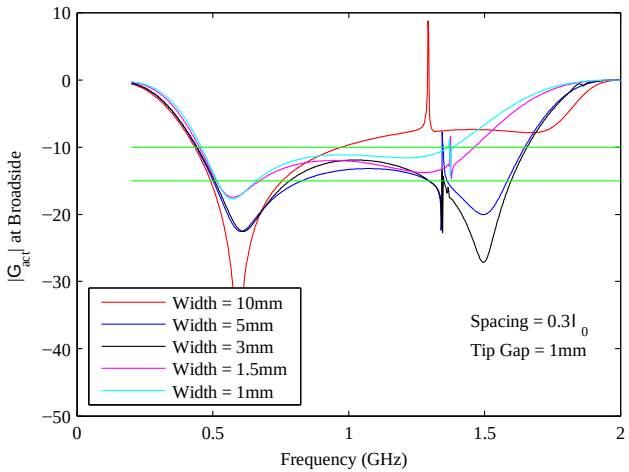
Parameter Study of Dense Dipole Array

Jacki Gilmore

- Dipole elements spaced closer than $0.5\lambda_0$
- Tip capacitances used to improve bandwidth
- Preliminary results indicate impedance bandwidth of 4:1 for single polarised array at broadside
- Study still in progress...





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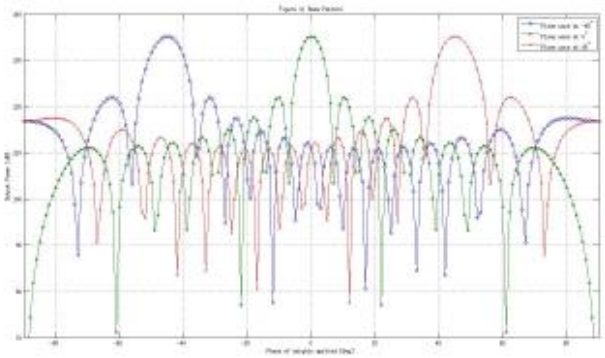
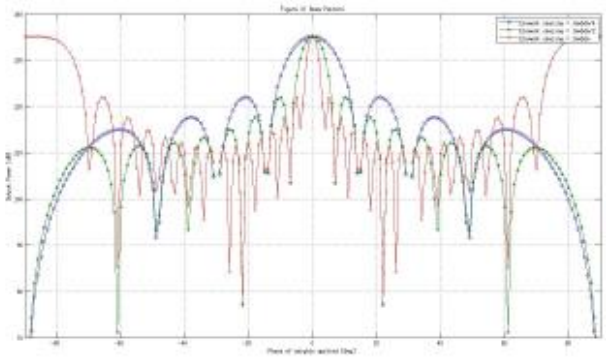
SEVENTH FRAMEWORK PROGRAMME

MARIE CURIE ACTIONS

Uniformly weighted linear array implemented on UniBoard

- Synthesized source: Monotonic plane wave with variable DOA and frequency
- Emulated array: 16 isotropic antenna's with variable spacing ito λ
- Conjugate field matching weights applied and maximum response verified





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Wrap-up:
Technologies are only accepted once a society has the right boundary conditions

- MFAA Project was presented
  - Will lead technology to a higher level
  - Is restricted to small demonstrators
- A next step is AERA3
  - but it should be science capable
  - cost effectiveness
  - Calibratability
  - Technology Development is needed

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Wrap up:

- Pulsars
  - Have high impact science
  - MFAA could play a crucial role in testing gravitational theories
  - Triple stellar system: needs long term observatioins
  - High cadence monitoring can give additional science
  - Transient require a large FOV, Aperture Arrays can do this.
- Modeling is also a method of preparing for a new technology before it is available

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Wrap up:

- Measuring antenna patterns using UAV's
- Relevance of SKA-low for AAMID

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