



**1<sup>st</sup> RadioNet-FP7**

**Engineering Forum Workshop**

# **Low Noise Figure Measurements at Cryogenic and Room Temperatures**

**Gothenburg, Sweden**

**23-24 June 2009**



**Chalmers University of Technology  
Organised by Onsala Space Observatory**

## Agenda – 23 June 2009

08.00 – 08.20	Registration	
08.20 – 08.30	Welcome and Introduction	<i>Reinhard Keller</i>

Neil Roddis	08.30 - 09.30	<b>Fundamentals of Noisy Networks</b> <i>Sander Weinreb (CalTech)</i>	<b>60' + 20'</b>
	09.50 - 10.10	<b>Cryogenic low-noise amplifiers: From InGaAs channel to hybrid module</b> <i>Per-Åke Nilsson (Chalmers)</i>	<b>20' + 5'</b>
	10.15 - 10.35	<b>Characterization of FhG-IAF low-noise mHEMTs at cryogenic temperatures : DC, S-Parameters and Noise</b> <i>Frank Schäfer (MPIfR)</i>	<b>20' + 5'</b>

10.40 - 10.55	Coffee Break
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Reinhard Keller	10.55 - 11.25	<b>Noise Parameters of FET's: Measurement, Modeling and Use in Amplifier Design</b> <i>Marian Pospieszalski (NRAO)</i>	<b>30' + 10'</b>
	11.35 - 11.55	<b>Estimation of Uncertainty in Noise Measurements Using Monte Carlo Analysis</b> <i>Juan Daniel Gallego (OAN)</i>	<b>20' + 5'</b>
	12.00 - 12.20	<b>Practical aspects on noise figure measurements</b> <i>Sergio Mariotti (INAF-IRA)</i>	<b>20' + 5'</b>
	12.25 - 12.45	<b>Cryogenic LNA Characterization: GARD Experience</b> <i>Erik Sundin (Chalmers)</i>	<b>20' + 5'</b>
	12:50 -13:10	<b>LNA Performance Optimisation Using Post-production Noise Characterisation</b> <i>Andrea Cremonini (INAF-IRA)</i>	<b>20' + 5'</b>

13:15 - 14.00	Lunch
14:00 – 15:00	Labs Visit
15.00 – 18.00	Trip to Onsala
19.30 -	Dinner ( we meet at the hotel at 7pm)

## Agenda – 24. June 2009

08.00 – 08.10	Administrative Issues	<i>Reinhard Keller</i>
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<b>Mo Missous</b>	<b>08.10 - 08.40</b>	<b>The IAF mHEMT Low-Noise Technology and its Extension to Cryogenic Applications</b> <i>Matthias Seelmann-Eggebert (FhG-IAF)</i>	<b>30' + 10'</b>
	<b>08:50 - 09.10</b>	<b>Millimeter HEMT amplifier measurements at cryogenic temperatures</b> <i>Francois Mattiocco (IRAM)</i>	<b>20' + 5'</b>
	<b>09.15 - 09.35</b>	<b>Measurement Setup for ALMA Band 5 Prototype Cartridge</b> <i>Magnus Strandberg (Chalmers)</i>	<b>20' + 5'</b>
	<b>09.40 - 09.55</b>	<b>A Measurement Test Set for ALMA Band 9 Amplifiers</b> <i>Isaac Lopez-Fernandez (OAN)</i>	<b>15' + 5'</b>

10.00 - 10.15	Coffee Break	
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<b>Victor Belistky</b>	<b>10.15 - 10.45</b>	<b>Cryogenic Measurements of CMB Polarimeters</b> <i>Pekka Kangaslathi (JPL)</i>	<b>30' + 10'</b>
	<b>10.55 - 11.15</b>	<b>Progress on FPA LNA developments and LNA characterization</b> <i>Laurens Bakker (ASTRON)</i>	<b>20' + 5'</b>
	<b>11.20 - 11.40</b>	<b>Noise measurements for the SKA</b> <i>Neil Roddis (SPDO)</i>	<b>20' + 5'</b>
	<b>11.45 - 12.05</b>	<b>Active antenna design and characterization for the mid-SKA</b> <i>Jan Geralt Bij de Vaate (ASTRON)</i>	<b>20' + 5'</b>

13.00 - 13.15	Concluding Remarks	
13.15 – 14.00	Lunch	