



ARIADNE

D-band Demonstrator

*ARIADNE project developed a Real-Time,
Point-to-Point, Line-of-Sight Link at
D-band*



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Imprint
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D-Band Point-to-Point Demonstrator

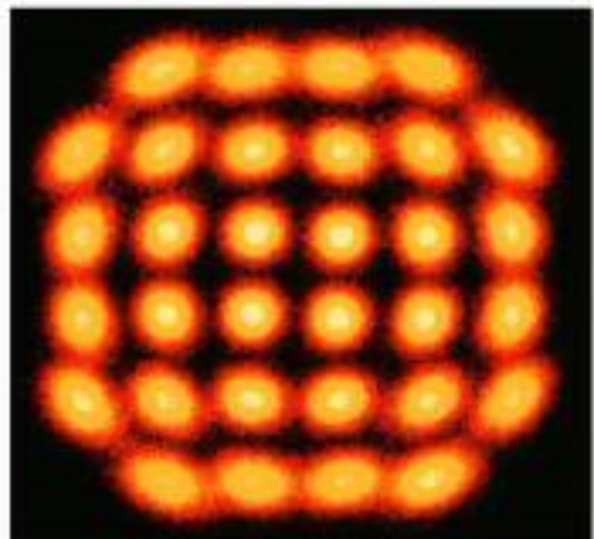
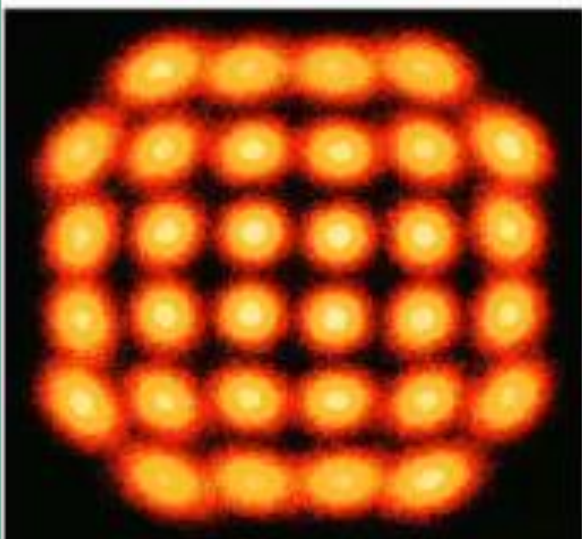
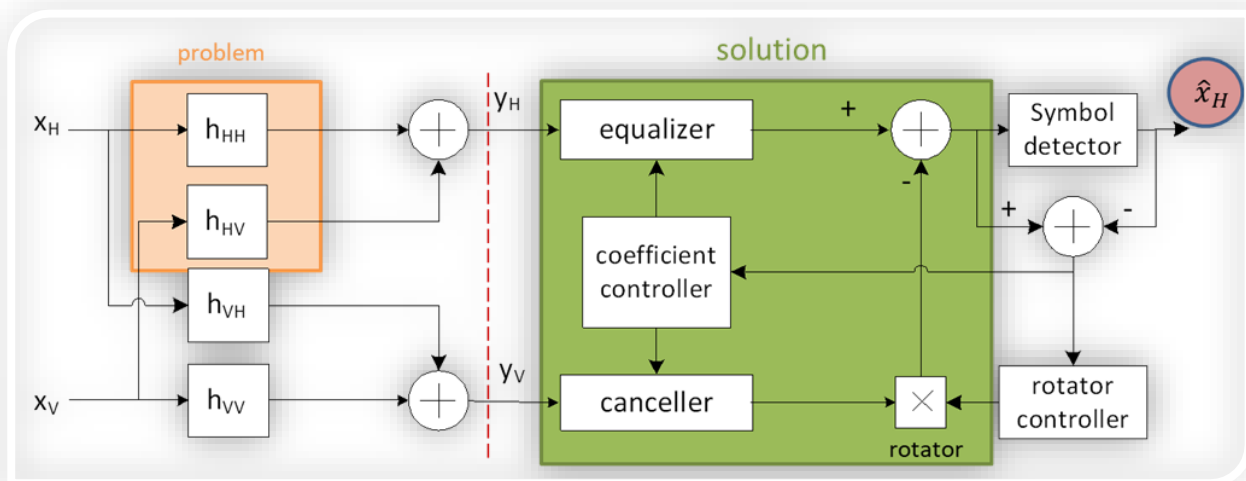


- RFU – Radio Frequency Unit developed by Fraunhofer IAF
- BBU – Baseband Unit developed by Intracom Telecom
- RFUs/ BBUs installed on rooftops of Intracom Telecom buildings in its Athens headquarters

D-Band Line-of-Sight Features

- Operating carrier frequency **150 – 160GHz** (D-Band)
- Dual-polarization, MMIC-based RF Unit
- Increased spectral efficiency through polarization multiplexing (2 x 2 MIMO)
- Advanced real-time signal processing with XPIC (Cross Polarization Interference Cancellation)
- Dual-modem baseband unit with **2GHz** channel bandwidth
- Link distance **226 m**
- Error-free FDD communication achieving **13Gbps per carrier**

Simple block diagram of XPIC algorithm



- ✓ State-of-the-art 150–160GHz MMIC-based RF transceivers
- ✓ High-gain Cassegrain antennas (~51dBi)
- ✓ Increased spectral efficiency - polarization multiplexing
- ✓ XPIC-based dual-modem BBUs (2GHz channels)
- ✓ DSP tool suite for D-band impairments compensation
- ✓ Error-free D-Band PTP communication Link (226m)
- ✓ Bit rates up to 13Gbps (32QAM)

Fraunhofer IAF

INTRACOM TELECOM



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