Receiver Developments at the Danish GPS Center

Darius Plausinaitis
Main development areas

• Development of a Software Defined Receiver
• EGNOS applications
• Basic GNSS signal simulators
• Multipath mitigation
• Atmospheric research
Software defined receiver
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Galileo Signal generator
Galileo Signal generator
EGNOS software
EGNOS software
Software defined receiver

- Software defined radio in Matlab
  - GPS L1 implementation ready
- Future
  - Galileo SDR coming
  - Simulink SDR implementation
  - Real time SDR (maybe in Matlab)
  - Multipath mitigation techniques
  - EGNOS integration
GNSS front-ends
FPGA development
Schedule

- **Software defined radio**
  - The book should be published summer 2006

- **EGNOS software**
  - Available now (for land positioning, server based)

- **FPGA based design**
  - In 1-1.5 year
Specs

• **Software defined radio**
  – GPS and Galileo on L1
  – USB 2 (High speed) front-end for L1
    • IF – 4.092 MHz
    • Sampling frequency – 16 MHz
    • Bandwidth – 6 MHz

• **Commercial implementation**
  – GPS on L1 (first version)
  – EGNOS
Needs

- Galileo ICD
- Galileo test signal for academia?
Thank you for your attention