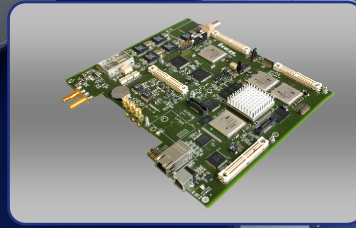
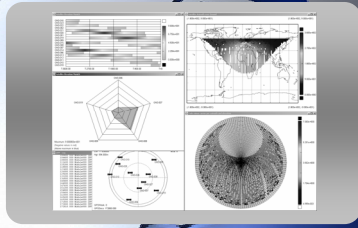


Opportunity for

Master Thesis (6 Months)



Receiver Technologies

Tailoring of GNSS Receiver

Thesis Summary

Satellite navigation systems like GPS or Galileo are continuously investigated for future improvements including new signals, service or data messages. Within the Galileo evolution program, the European Space Agency is supporting this process with a flexible GNSS signal generator supporting a variety of possible new signals and data messages as they are discussed within the GNSS community. A flexible GNSS test receiver complements this system allowing to do end-to-end performance demonstrations of the considered signal and data message options.

IFEN's software receiver provides a framework to process new navigation signals and services. This generic framework needs to be configured in terms of signal tracking and acquisition parameters. Furthermore, the broadcast navigation message structure has to be specified with a XML-based format.

Within the proposed thesis, the generic structure of the receiver shall be understood and used to realize a subset of the following receivers: GPS L1C, GLONASS P-code, BeiDou B2 and B3, IRNSS on L5 and on S-Band. Furthermore a configuration representing the onboard Galileo receiver for telemetry and mission uplink shall be realized.

Once a receiver configuration has been established it shall be real-time tested using IFEN's signal generator and the performance of the receiver shall be documented and discussed. Improvements of the receiver structure shall be identified and possibly implemented.

The thesis is carried out in the IFEN premises either in Pöng/Germany or in Graz/Austria. It is within the context of the Galileo Evolution program of the European Space Agency.

Requirements

- Master student in Aerospace Engineering, Navigation, Communications Engineering or equivalent sciences
- Programming skills in (C/C++) and willingness to enhance them during the thesis
- Good written and spoken English
- Ability to grasp and learn new concepts quickly and efficiently
- Capacity to approach challenges with a positive attitude and open mind

Application

Please send your resume via Email to careers@ifen.com

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