**IDP SOFTWARE & NETWORK ENGINEERING**

Build & diagnose a SpaceWire network

**About MPE:**
The Max Planck Institute for Extraterrestrial Physics (MPE, https://www.mpe.mpg.de/main) is a research institute located in Garching campus which focuses on understanding phenomena found in outer space. One of the ongoing projects at MPE is ESA's next generation European X-ray observatory named ATHENA (https://www.mpe.mpg.de/1313033/ATHENA). Where MPE’s electronics department is responsible for developing the Wide-Field-Imager (WFI) payload electronics which uses SpaceWire standard as onboard date handling system.

**Who YOU are:**
- You are experienced in C/C++, Python programing
- Team player with ability to work independently
- You are familiar with irregular network topologies
- Basic knowledge of network testing
- Fluent in English, German beneficial

Not necessary but welcome skills: LabVIEW, Python GUI development, WireShark, Java

**What to know before the IDP:**
- IDP is supervised by the Chair of Integrated Systems
- Applications possible as team or individually

**What we offer:**
Join a highly driven team with flat hierarchies with room and freedom to experiment and learn
- Flexible working hours
- Dedicated lab as a workspace for IDP

**Your RESPONSIBILITITES:**
The goal of this IDP is to build and test a larger SpaceWire network for emulating the onboard spacecraft data handling system.
- Write programs for emulating network nodes (traffic generators, receivers)
- Come up with test procedures for evaluating the performance of SpaceWire routers (FPGA and ASIC hardware)
- Perform network analysis for different traffic scenarios

To achieve this you will use the MPE equipment such as PXI-SpaceWire (NI PXI system compatible expansion card), 4Links Diagnostics SpaceWire Recorder, and custom FPGA based network nodes.

**Include following information with your application:**
- CV(s)/resume(s) and LinkedIn (if existing)
- Any public pages you have (e.g. GitHub)
- Previous projects and team experiences (couple of sentences)
- Any questions you might have

**INFORMATION APPLICATION & :**
gaskvarc@mpe.mpg.de

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