

Seminar über Ultrafast Science and Technology

Referent: Raphael Blüml, Institute of Applied Physics, University of Bern

Titel: Fiber optical Gyroscope

With the discovery of the Sagnac effect in the 20th century optical rotation rate sensors become possible. It took more than 50 years and the invention of Lasers to build such a sensor in the 1960's, namely the Ring Laser (RLG). These devices are extremely accurate, sensitiveness down to $0.001^\circ/\text{hr}$, but also extremely costly. The invention of fibers in the late seventies provided a good alternative, the interferometric fiber optical gyroscope, also IFOG. Fibers are used to enhance the Sagnac effect and can be packed in a very small way. This Master thesis considers a new fiber winding technology to improve the linearity and the long-term stability of the IFOG. The set-up, goals and the timeline of the Master thesis will be presented. The second part of the presentation is dedicated to the multifunctional device, called RedPitaya. This credit card sized open source data acquisition platform can be implemented in various forms into experiments. For example: Oscilloscope, frequency analyser, function generator, Bode-plotter, logic analyser etc. Remote control through SCPIE-server with MatLab, SciLab, LabView is also possible.

Zeit: Donnerstag, 09.03.2017, 11:15 Uhr

Ort: **Hörsaal B116**, Gebäude exakte Wissenschaften, Sidlerstrasse 5, Bern, Schweiz