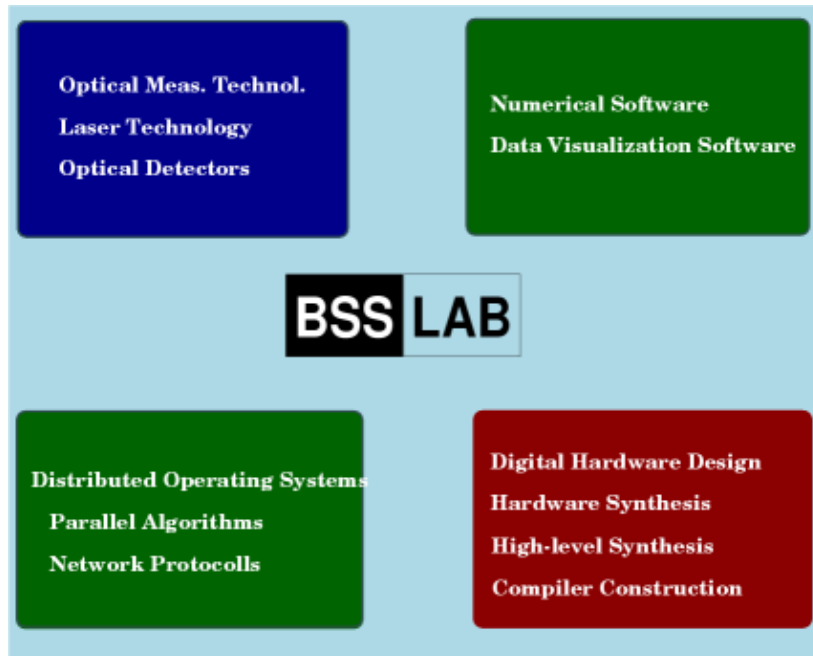


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Independent Research and Development Laboratory

Scientific Measuring and System Techniques

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Projects and Activities

Overview

All the project and research activities are of interdisciplinary nature and a combination of physical and technical areas:

- Physical fundamentals and technologies,
- optical signal processing and measuring techniques,
- electronics,
- informational science and engineering.

Therefore, the research and development is divided into two areas:

- Scientific Software
- Optical Systems

Scientific Software


In the area of scientific software the main emphasis is put in distributed operating systems and their application in the laboratory environment for data processing and analysis.

Overview 

- VAM – distributed operating system based on Amoeba with virtual machine concepts and functional programming
- AMUNIX – Amoeba extension for UNIX-like operating systems
- AMCROSS – Amoeba crosscompiling environment for UNIX
- VX-Kernel – the new Amoeba microkernel
- VAMNET – a new hybrid distributed operating system environment

Optical Systems and Measuring Methods

The main emphasis are laser optical measuring techniques with and without dependencies of the coherent nature of laser light and the development of light detectors and coherent light sources based on laser diode technology.

Overview 

- Optics – generic
 - ◆ Laserdiodesystems
 - ◆ Optical Lightdetectors
 - ◆ Optomechanical Components
- TOF – Time-of-Flight laseroptical distance measurement
- FPGA – usage of programmable digital logic in laseroptical measuring techniques
- LDCON – FPGA-based laserdiode control

Mechanics

- CNC drilling- and milling machine development

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