Optoelectronics

High performance integrated optical devices

In this project we focused on the development of high-performance integrated optical devices. We worked with various material platforms such as the silicon, III-V, and other electro-optic crystals that exhibit new potential for realizing interesting optical functionalities. Currently we are working on novel resonant optoelectronic structures which make use the interaction between optical and RF signals for realizing high speed and efficient modulator devices. For the device micro or nano-fabrication, we make use of the excellent clean-room facilities of the MTDC and N2FC in NTU. The RF-optical measurements follow-up is performed in DSO National Laboratories.

Figure 1: The three-zone furnace for the fabrication of optical diffused waveguides.

Figure 2: Optical characterization setup