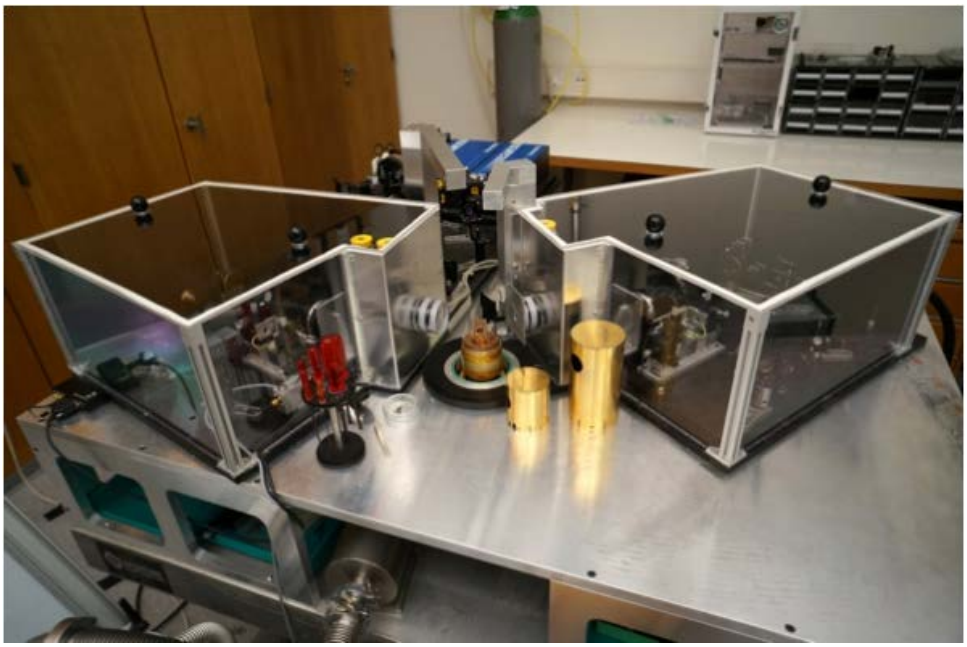
# Terahertz Ellipsometer



Setup Terahertz Ellipsometer

We have built an ellipsometer operating in the THz range (3-85 $cm^{-1}$ or 0.1-2.5 THz). It is based on time-domain spectroscopy - we use femtosecond laser from Menlo Systems producing 100 fs pulses of 780 nm light, with total output about 100 mW that powers the area emitter antenna (GigaOptics TeraSED) and dipole antenna detector (Menlo Systems).

The polarizers are tandems of free standing wire-grids (Specac) and the ellipsometer operates in rotating analyzer mode. Our system features alignment-free variable angle of incidence in the range 45-90 deg, where 90 deg is straight-through/transmission configuration. The system is equipped with He-flow cryostat for temperature range 10-350 K from CryoVac.