

Education Kit for Internal and External Conical Refraction

The VCT AG offers an education kit to demonstrate both internal and external conical refraction with modern laser technology. The setup consists of optical components like lenses, $\lambda/4$ -plate, beam expander, mounted MDT crystals and required mechanical components. The components can be adapted to any existing laser source. It means that for each wavelength and diameter of the incoming laser beam a suitable setup can be assembled.



Fig. 1: Education kit of the VCT AG for internal and external conical refraction

The education kit enables a simple setup to realize internal conical refraction with its resulting interacted hollow light cylinders. Projecting this beam profile onto a screen one will see the famous Poggendorff rings, two interacted rings of radiation.

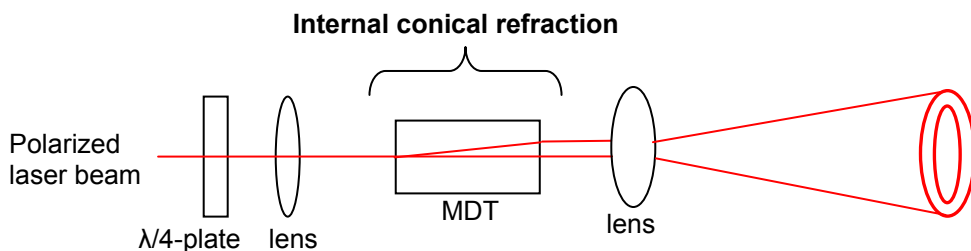


Fig. 2: Setup to realize internal conical refraction

Furthermore also external conical refraction can be realized. A well calculated setup and combination of two MDT-crystals leads to external conical refraction within the second crystal, where the effect can be seen as a thin line of radiation with constant diameter.

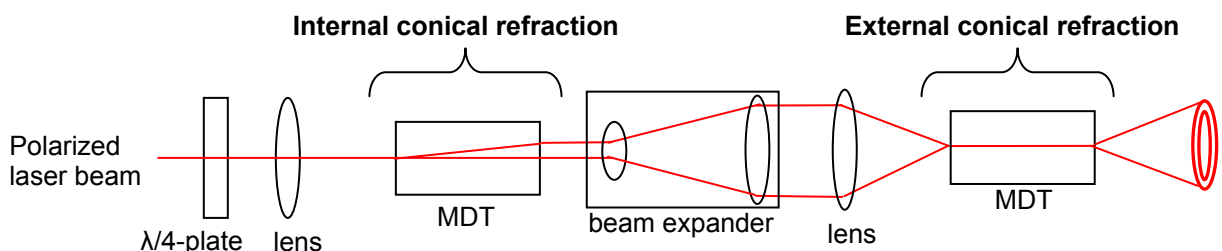


Fig. 3: Setup to realize external conical refraction