# geoHEAT

Series of Lenses combining functions of Focusing the Laser Heating beam and Spectroradiometric temperature measurements



With these unique achromatic lenses it is possible to focus the radiation of IR-laser beam used for heating of a sample and, simultaneously, create the image of that sample for further analyzing with using a spectrometer or other instruments.

Diffraction limited correction level for both optical paths: laser heating and temperature measurements.

Optimized operation spectral bands:

- 1020 1100 nm for the heating channel
- 600 900 or 400 700 nm for the channel of the spectroradiometric temperature measurements.

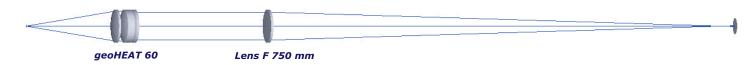
## Focusing + Temperature Measuring!

### No more problems with Chromatic Shift!

#### **Technical Specifications**

Model <b>geoHEAT</b>	40_NIR	60_NIR	100_NIR	60_VIS	100_VIS
Туре	Achromatic lenses				
Input Clear Aperture	16 mm	19 mm			
Focal Length, mm @ 1064 nm	40.8	60.2	102.0	61.6	99.1
Working Distance, mm (from last mech. surface to Focus)	80	60	92	57	88
F Number	2.6	3.2	5.4	3.2	5.2
Overall Dimensions Diameter / Length, mm	55 / 110	30 / 26.5	30 / 17.5	30 / 25.5	30 / 17.5
Optimum spectral range, nm	600 - 900, 1020 - 1100			400 - 700, 1020 - 1100	
Other features	<ul> <li>Achromatic for design wavelengths, reduced chromatic shift</li> <li>Optimized for purposes of focusing the near-IR radiation</li> <li>Diffraction limited for the working spectral bands</li> <li>Compact design</li> <li>No cemented doublets</li> <li>Extended back focal length (distance from last optical surface to focal plane)</li> <li>Optimized to compose relay imaging optical system with a lens from BK7 of 5001500 mm focal length, except geoHEAT 40_NIR</li> <li>Optimized for operation in geoHEAD – combined system for heating and spectroradiometric temperature measurements</li> </ul>				
Applications	Laser Heating in studies of physical properties of materials (for example, minerals) under high pressure and high temperature in combination with spectroradiometric temperature measurements.				
Mounting	External Thread M 27x1 (M 24x1 for modifications of geoHEAT 40_NIR, geoHEAT 100_NIR)				
Weight	< 400 g	< 100 g			

#### Example of imaging layout, magnification -12.5



#### **Comparison of Chromatic Focal Shift**

