



UltraFast
Innovations



YOUR KEY to innovation and success



vis-nIR Phase Retarder KAUAI



Our vis-nIR Phase Retarder KAUAI is the perfect quarter waveplate to convert linearly polarized light into circularly polarized light with minimal dispersion.

Covering a broad spectral range from 650 to 1400 nm, it supports more than an optical octave of bandwidth, making it ideal for polarization control of ultrabroadband pulses, including white light supercontinuum. With a dispersion of less than 3 fs^2 , KAUAI ensures optimal performance in high-end laser systems using ultrashort pulses, especially Ytterbium-based platforms. Its all-reflective geometry enables compatibility with few-cycle pulses and self compressing broadening schemes, outperforming traditional achromatic waveplates. KAUAI's compact footprint ($8 \times 15 \text{ cm}^2$), high throughput, and beam-preserving design allow seamless integration into existing setups. Its rotation is remote controllable and it can be used with beam diameters up to 6 mm. KAUAI is the go-to solution for demanding ultrafast applications that require precise polarization control and exceptional dispersion management.



Key Product Features:

- Ultrabroadband reflective retardation to create circularly polarized light in the visible and near infrared
- Compact design, with beam direction preservation
- Up to $\approx 90\%$ max reflectivity
- Entrance and exit iris diaphragms for alignment
- No added GDD ($<3 \text{ fs}^2$)
- Easy to implement in existing setups
- More wavelengths available upon request

Characteristics:

Spectral Range	650-1400 nm
Reflectivity	$>85\%$
Max Ellipticity P_c^1	1.0
Extra Beam Path	60 mm
Clear Aperture	6 mm
Footprint	80mm (W) x 150mm (L)

¹Degree of Ellipticity expressed as Stokes Parameters $P_c = S_3/S_0$

UltraFast Innovations GmbH
Dieselstr. 5
85748 Garching
Germany

phone: +49 89 36039 - 437
fax: +49 89 36039 - 453
info@ultrafast-innovations.com
www.ultrafast-innovations.com





Theoretical curves:

