GIRES-TOURNOIS-INTERFEROMETER (GTI) 啁啾镜

产品描述:

GTI啁啾反射镜用于短脉冲激光器（如Yb:YAG或Yb:KGW激光器）中的脉冲压缩。筱晓还为钛宝石波长范围和其他近红外光谱范围的飞秒激光提供GTI反射镜。与棱镜压缩器相比，GTI反射镜减少了腔内损耗。

产品特点:

- 非常高的反射率
- 中心波长、带宽和GDD符合客户规格请注意，带宽和GDD是紧密相连的
- 负GDD的高值会导致非常窄的带宽光谱
- 公差为中心波长的±1%
- 内部设计计算和测量能力（GDD 250－1700 nm，CRD 210－1800 nm的反射率测量）

产品应用:

- 脉冲压缩
- 超快激光器
- 光通道诊断

技术参数:

材质	红外级熔融石英 Infrasil
形状	圆形
直径(Ø)	12.7，25.4 mm ,50.8(-0.1 mm)
厚度(t)	6.35 mm (±0.1 mm)
边缘厚度	6.35 mm
平行度	5’

光学参数	正面(S2)	光学参数	背面(S1)
形状	凹面	形状	平面
曲率半径	1,000 mm（±1 %)	倒角	0.3 mm (±0.1 mm)
倒角	0.3 mm (±0.1 mm)	测试区 Øe	20
测试区 Øe	20	曲面容差	3/0.2(0.2) [L/10 @546.1nm]
曲面容差	3/-(0.2) [L/10 reg. @546.1nm]	清洁度	5/2x0.04; L1x0.004
清洁度	5/2x0.04; L1x0.004		

内部测试区Øe 10 清洁度 5/2x0.016
//<5minS1: commercial polish | chamfer 0.3 uncoated S2(^): Øe10 | 3/0.2(0.2) [L/10] | 5/2x0.025; L1x0.004 | chamfer 0.3 HRu(10° ,1030nm)>99.9% GDD-Rp(10° ,1030nm)= -2500(±500)fs^2 有关操作功率【1】

[1].≈ 0.1 J/cm^2 , 800 nm, 150 fs,Measurements were performed at Laser Zentrum Hannover

相关测试:

GTI - MIRRORS 应用在Yb:YAG- AND Yb:KGW-LASERS

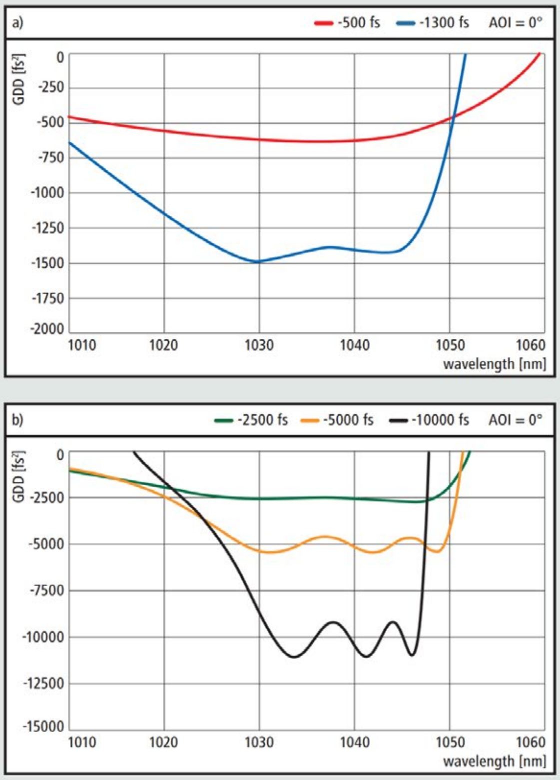


Figure 1: GDD spectra of GTI-mirrors for 1040 nm with different GDD Values

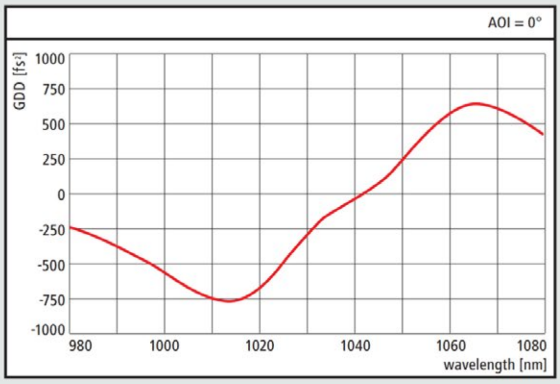


Figure 2: GTI mirror with nearly constant TOD

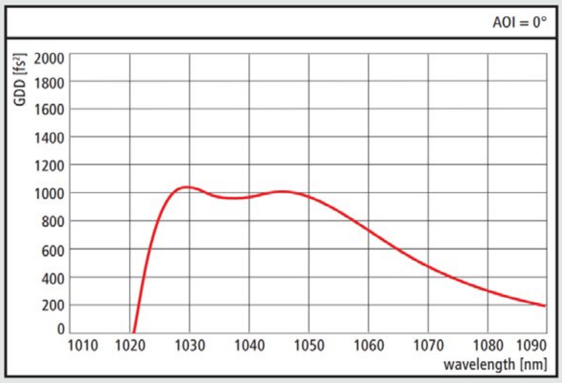


Figure 3: GTI mirror with positive GDD

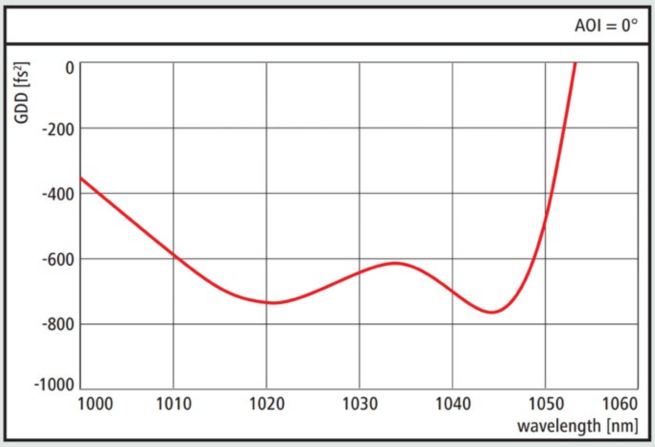
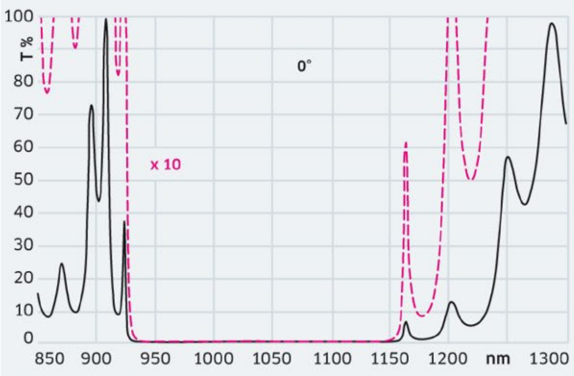


图4：GDD（0° -10°，1030 nm）~ -700 fs²的后侧GTI后视镜的GDD光谱。反射镜通过正面有AR涂层的基板进行照射。背面GTI反射镜对表面污染不敏感，表面污染有时会扭曲正面GTI反射镜的GDD光谱.



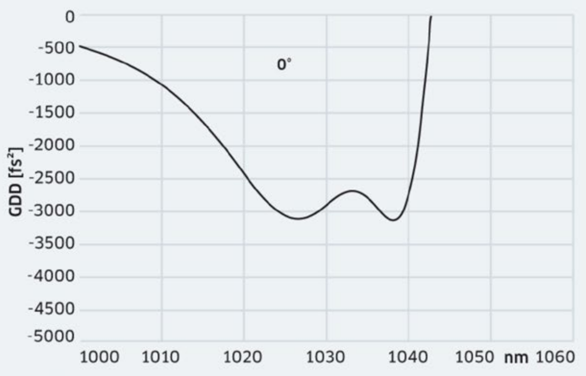


图5HR 1030 nm / 0-5° GDD -2900 fs²

1030 nm: R > 99.95%, GDD (R) ±500 fs² (IBS-coating)

GDD [fs²]	**Reflectance [%]** measured by CRD
-500	99.99
-1300	99.98
-2500	99.97
-5000	99.95
-10000	99.95

相关测试:

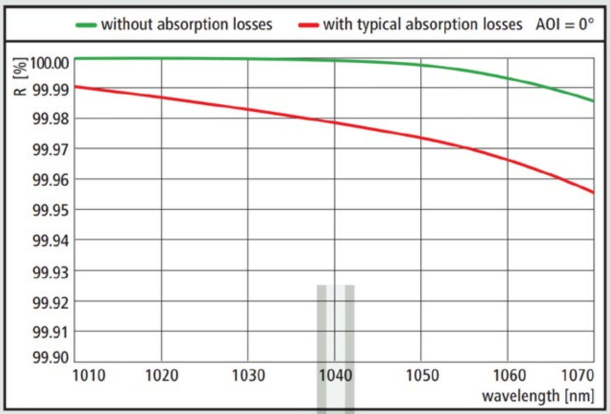


Figure 5: Calculated reflectance spectra of a GTI mirror without absorption losses (green) and with typical absorption losses (red)

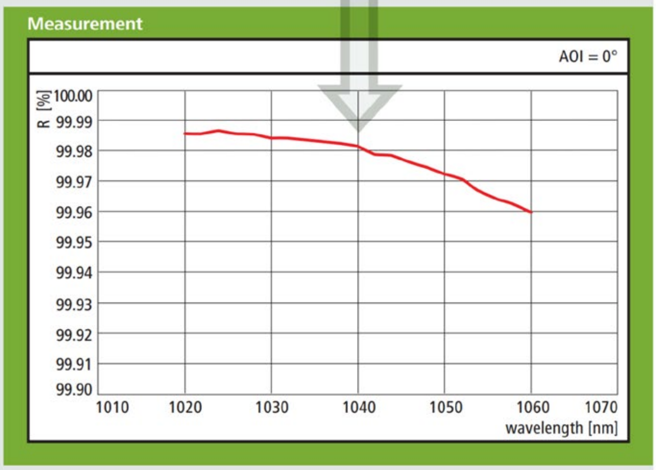


Figure 6: Measured reflectance spectrum of a GTI mirror (design as calculated in fig. 5)

GTI反射镜的涂层均匀性和再现性:

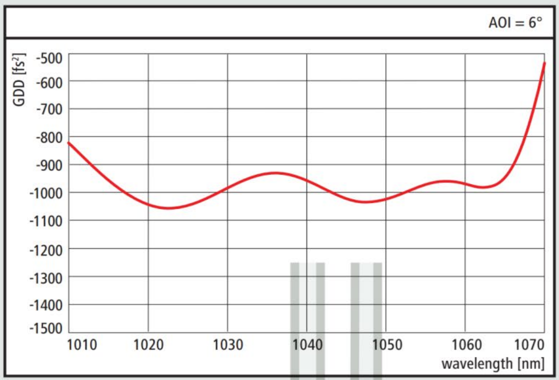


Figure 7: Calculated GDD spectrum of a GTI mirror:
GDDr (6°, 1020 – 1060 nm) ~ -1000 ± 200 fs²

Fig. 8 and 9 show that all GTI mirrors which were produced in these batches meet the specifications given in fig. 7. Comparing mirrors from two batches the variation within a batch and between batches are much smaller than what is allowed by the specifications. The excellent reproduction of complex coating designs is the basis for the use of GTI mirrors in industrial short pulse lasers.

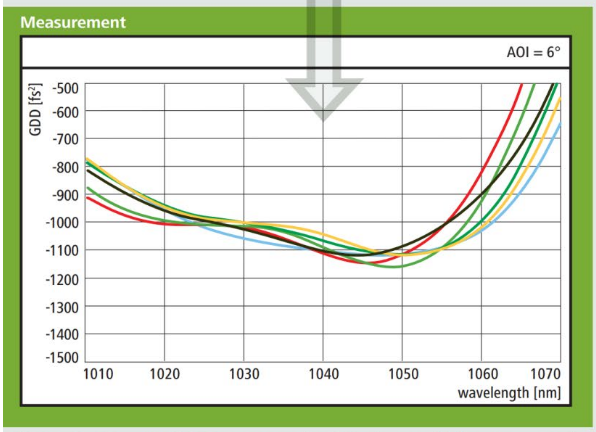


Figure 8: Measured GDD spectra of 6 GTI mirrors which were coated in the same batch according to the design of fig. 7

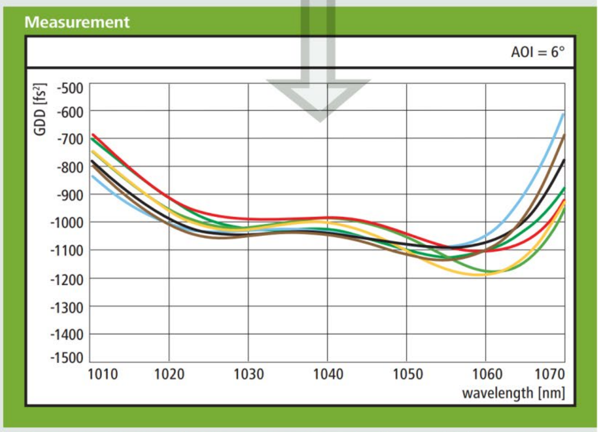
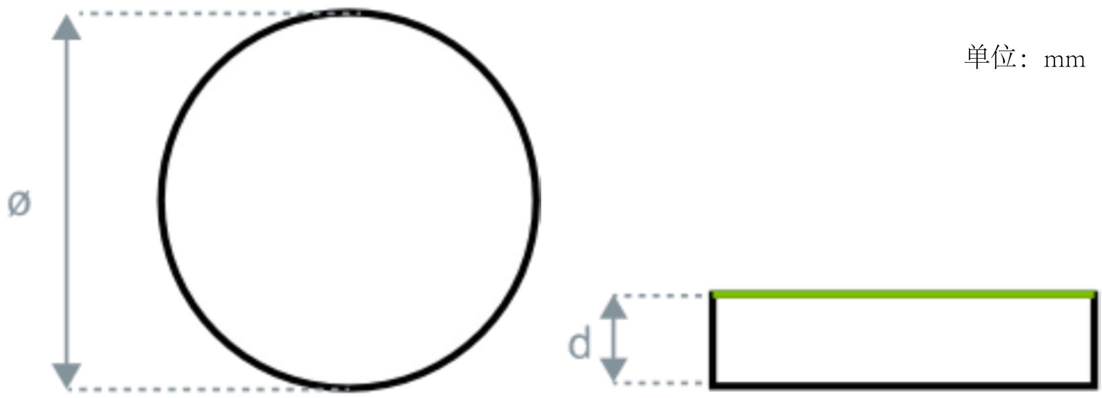


Figure 9: Measured GDD spectra of 6 GTI mirrors which were coated in a second batch according to the design of fig. 7

尺寸图:

单位：mm



订购信息:

GTI- □□□□-☆-▽

□□□□: 尺寸

126: 直径：12.7X厚度6.35mm

*****

256: 直径：25.4X厚度6.35mm

508:直径：50.8X厚度8mm

其他

☆ : GDD

-500: GDD -500 fs^2

-1000:GDD -1000 fs^2

-2500: GDD -2500 fs^2

▽: Operation Wavelength Range

980: 980nm

1030: 1030nm

2000:2000nm

PN#GTI-126-500-1030 名称：1030nm激光啁啾镜

工作波长：1030nm

GDD -500 fs^2

尺寸：12.7X6.35mm