

CONFIDENTIAL

Optotune TP-12-16

Zemax model

Dietikon, December 2016

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Overview

Zemax 12 EE - 28343 - \\tsclient\G\11-RnD\16-Optical\01-Privat\05-Mini Projects\161214 - Optotune - Tunable Prism TP-12-16\Zemax\Optotune_TP-12-16.ZMX

File Editors System Analysis Tools Reports Macros Extensions Window Help

New Ope Sav Sas Upd Gen Fie Wav Lay L3d Ray Opd Fcd Spt Mff Fps Enc Opt Ham Tol Gla Len Sys Pre Chk

Lens Data Editor: Config 1/5

Surf. Type	Comment	Radius	Thickness	Glass	Semi-Diameter	Conic	Par 0 (unused)	Decenter X	Decenter Y	Tilt About X	Tilt About Y	Tilt About Z	Order
OBJ	Standard	Infinity	Infinity		0.0000000	0.0000000							
STO	Standard	Infinity	1.0000000		4.0000000	U	0.0000000						
2*	Standard	Infinity	2.0000000	BK7	6.0000000	U	0.0000000						
3*	Standard	Infinity	8.0000000	OL1129_VIS_NIR	6.0000000	U	0.0000000						
4	Coordinat...	Element Tilt	0.0000000	-	0.0000000			0.0000000	0.0000000	-20.0000000	0.0000000	0.0000000	0
5*	Standard	Infinity	2.0000000	BK7	6.0000000	U	0.0000000						
6*	Standard	Infinity	-2.0000000	T	6.0000000	U	0.0000000						
7	Coordinat...	Element Tilt	2.0000000	P	-	0.0000000		0.0000000	P	0.0000000	P	20.0000000	1
8	Standard	Thickness compensator	2.0000000	T	P	6.0000000	U	0.0000000					
9	Standard	Infinity	5.0000000		4.0525655	U	0.0000000						
IMA	Standard	Infinity	-		10.0000000	U	0.0000000						

2: 3D Layout

Update Settings Print Window Text Zoom

3: Shaded Model

Update Settings Print Window Text Zoom Spin

Multi-Configuration Editor

Active	1/5	Config 1*	Config 2	Config 3	Config 4	Config 5
1: PRAM	4/3	-20.0000000	-10.0000000	0.0000000	10.0000000	20.0000000
2: PRAM	4/4	0.0000000	0.0000000	0.0000000	0.0000000	0.0000000
3: THIC	3	8.0000000	8.0000000	8.0000000	8.0000000	8.0000000

Tilt about X

Tilt about Y

Possibility of fluid thickness adjustment in case of tilt pivot point not being located in the center of the 2nd glass window's first surface (depending on Gimbal mount)

5 configurations for 5 different tilt angles (covering full range from -20 to +20 degrees)

JEFL: 1e+010 WENO: 10000 ENPD: 8 TOTR: 20

Optical fluid

- Dispersion and thermal data of optical fluid OL1129
- Dispersion data was fit with Sellmeier 1 formula

Catalog:OPTOTUNE_LENSMAT_

Glass:

OL1224_VIS

OL1129_VIS_NIR

OL1114_VIS

OL1024_UV_VIS_NIR

OL0901_UV_VIS_NIR

Rename:OL1129_VIS_NIR

Formula:Sellmeier 1

Status:Standard

Nd:1.382272Vd:64.7999

☐ Ignore Thermal Expansion

☐ Exclude Substitution

☐ Meta Material (Negative Index)

Melt Freq: ?

Rel Cost: ?

Comment:

CR: ?

FR: ?

SR: ?

AR: ?

PR: ?

Save Catalog

Save Catalog As

Reload Catalog

Exit

Insert Glass

Cut Glass

Copy Glass

Paste Glass

Sort By ->

Glass Report

Transmission

Fit Index Data

Name:

Catalog Report

Compute Nd/Vd

Fit Melt Data

K1:8.88417343E-001

L1:8.49958325E-003

K2:4.45886098E-004

L2:1.49250194E-001

K3:5.08780697E+004

L3:1.84523836E+007

Minimum Wavelength:0.40000000

Maximum Wavelength:1.60000000

D0:-9.7711E-004

D1:1.9699E-007

D2:5.2700E-010

E0:-1.0584E-006

E1:1.5137E-009

Ltk:2.5973E-001

TCE:0


Temp:25

p:1

dPgF:0

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Study of temperature changes



- Use the Zemax menu System\General\Environment to check the effect of changes in the environmental temperature on the refractive index and prism performance.
- Temperature induced fluid volume changes are compensated by the bellows structure outside of the optical path.

