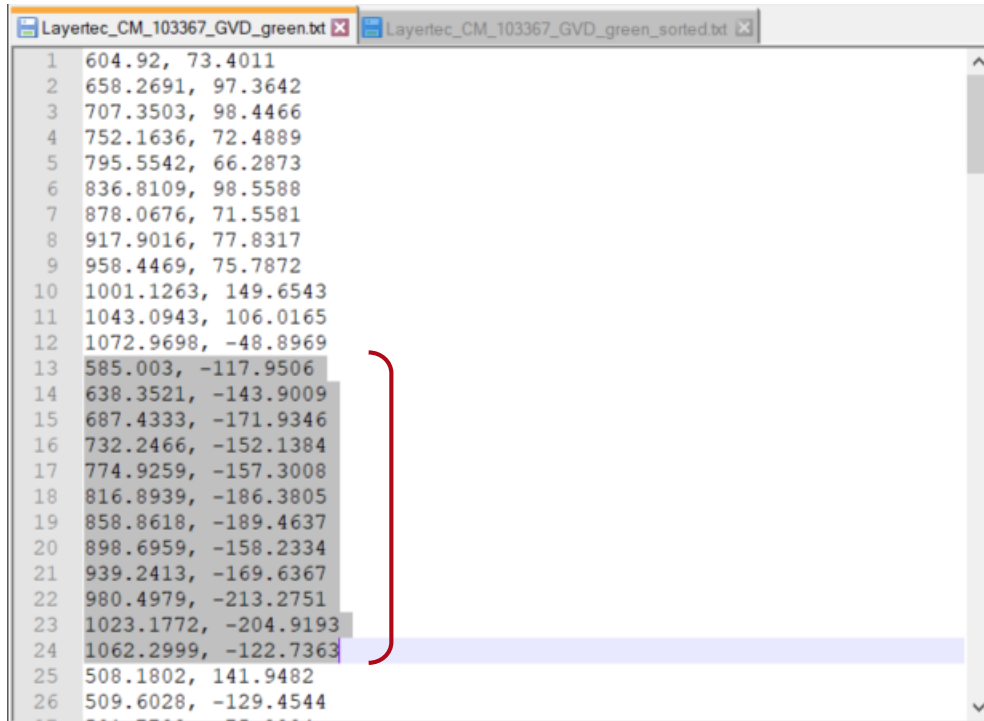


# **Chirped Mirror for Ultrashort Pulses**

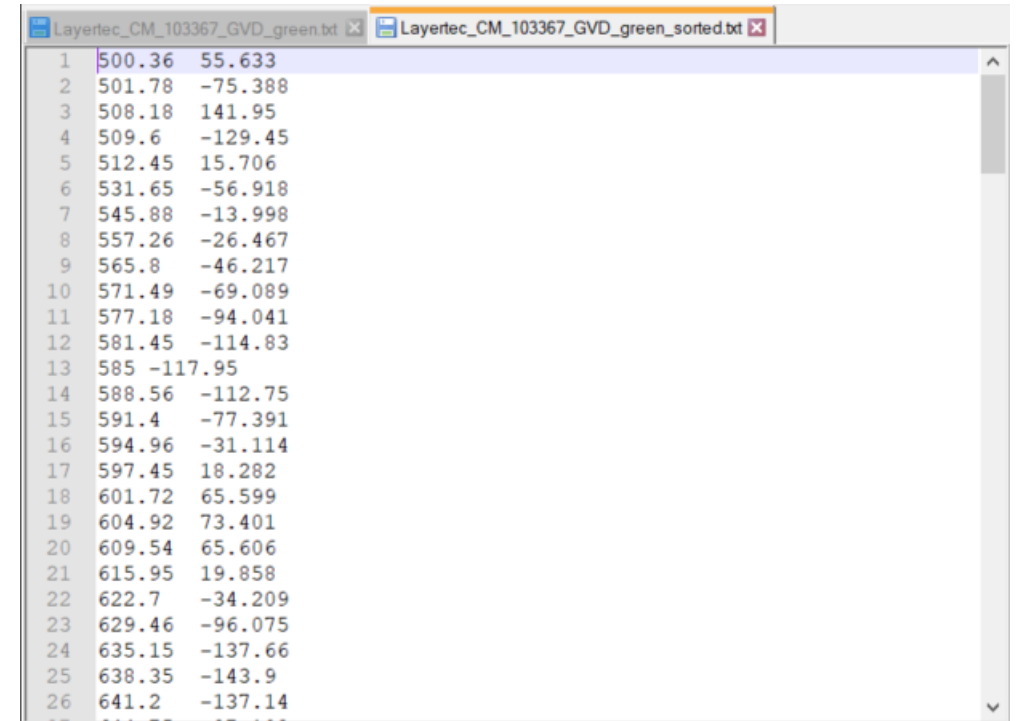
# Prepare Data

original data for CM 103367



1	604.92,	73.4011
2	658.2691,	97.3642
3	707.3503,	98.4466
4	752.1636,	72.4889
5	795.5542,	66.2873
6	836.8109,	98.5588
7	878.0676,	71.5581
8	917.9016,	77.8317
9	958.4469,	75.7872
10	1001.1263,	149.6543
11	1043.0943,	106.0165
12	1072.9698,	-48.8969
13	585.003,	-117.9506
14	638.3521,	-143.9009
15	687.4333,	-171.9346
16	732.2466,	-152.1384
17	774.9259,	-157.3008
18	816.8939,	-186.3805
19	858.8618,	-189.4637
20	898.6959,	-158.2334
21	939.2413,	-169.6367
22	980.4979,	-213.2751
23	1023.1772,	-204.9193
24	1062.2999,	-122.7363
25	508.1802,	141.9482
26	509.6028,	-129.4544

sorted data according to wavelength



1	500.36	55.633
2	501.78	-75.388
3	508.18	141.95
4	509.6	-129.45
5	512.45	15.706
6	531.65	-56.918
7	545.88	-13.998
8	557.26	-26.467
9	565.8	-46.217
10	571.49	-69.089
11	577.18	-94.041
12	581.45	-114.83
13	585	-117.95
14	588.56	-112.75
15	591.4	-77.391
16	594.96	-31.114
17	597.45	18.282
18	601.72	65.599
19	604.92	73.401
20	609.54	65.606
21	615.95	19.858
22	622.7	-34.209
23	629.46	-96.075
24	635.15	-137.66
25	638.35	-143.9
26	641.2	-137.14

It seems that the original GDDs data are not always sorted according to wavelength. That would lead to certain difficulty for VirtualLab interpretation. Some preparation is then needed.

# Import of Measured Chirped Mirror Data

Data Array Import Wizard

**Base Parameters**

First, you have to choose whether to import one-dimensional data  $f(x)$  or two-dimensional data  $f(x,y)$ , and whether or not these data are complex-valued.

Dimensionality ☐ One-Dimensional ☒ Two-Dimensional

Complex or Real Data  
☐ Data are Complex-Valued  
☒ Data are Real-Valued

**Import of Data Subsets**

On this page, you can import an arbitrary number of data array subsets. Note that all subsets must have the same number of data points both in x- and y-direction.

Subset #	Description	Physical Property	File Import	File Name	Data Points
1	Imported Data	No Unit	Import	D:\OneDrive\ID	(2; 31)

Add Subset Delete Last Subset

First import the GDDs data as a 2D data array

Data Array Import Wizard

**Coordinate Settings**

Set up the coordinates of the data array here, equidistantly sampled in both x- and y-direction.

**x-Axis**

Description: Data  
Physical Property: No Unit  
Interpolation Method: Nearest Neighbor

Dimensions  
Sampling Distance: 1

Positioning  
Start Coordinate: 0  
☐ Equals minimum boundary of first interval

**y-Axis**

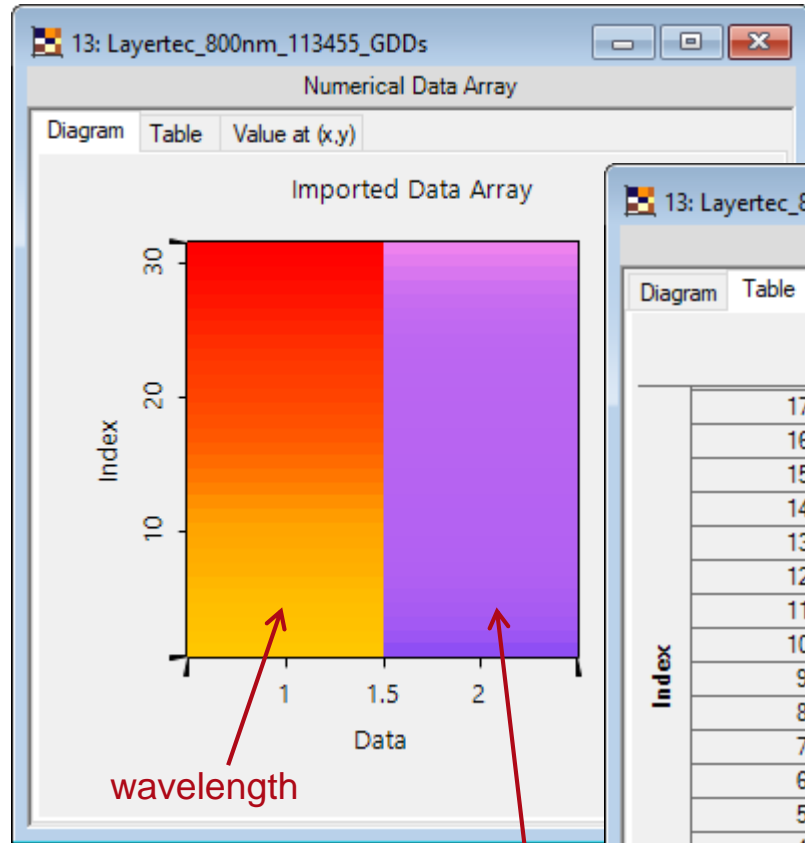
Description: Index  
Physical Property: No Unit  
Interpolation Method: Nearest Neighbor

Dimensions  
Sampling Distance: 1

Positioning  
Start Coordinate: 0  
☐ Equals minimum boundary of first interval

< Back Finish Cancel Help

# Further Processing of Imported Data



convert into 1D data for later use

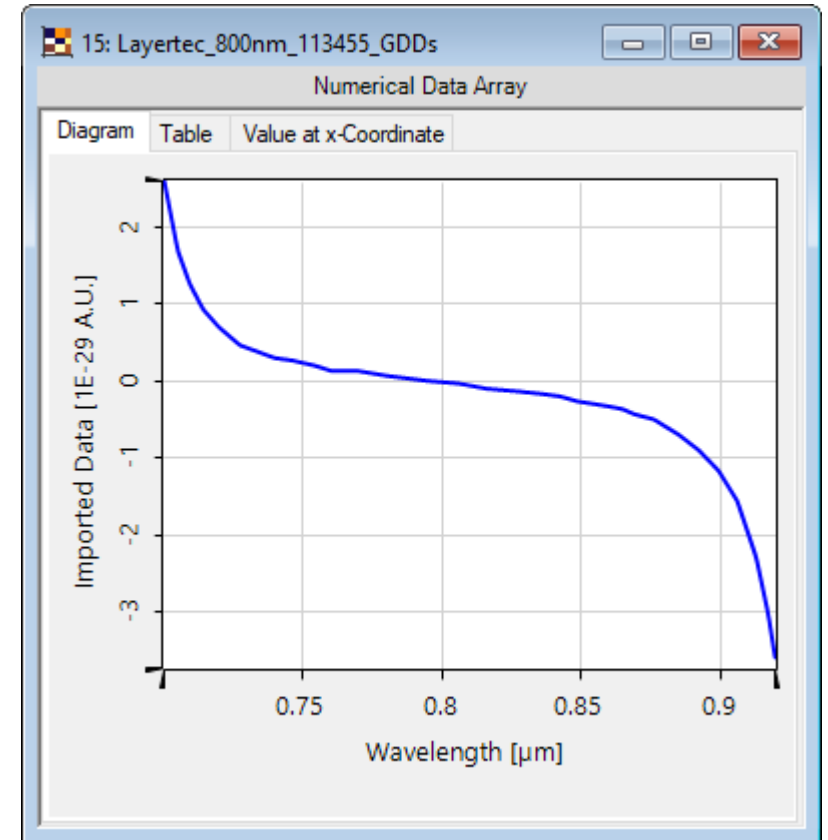
13: Layertec\_800nm\_113455\_GDDs

Numerical Data Array

Diagram Table Value at (x,y)

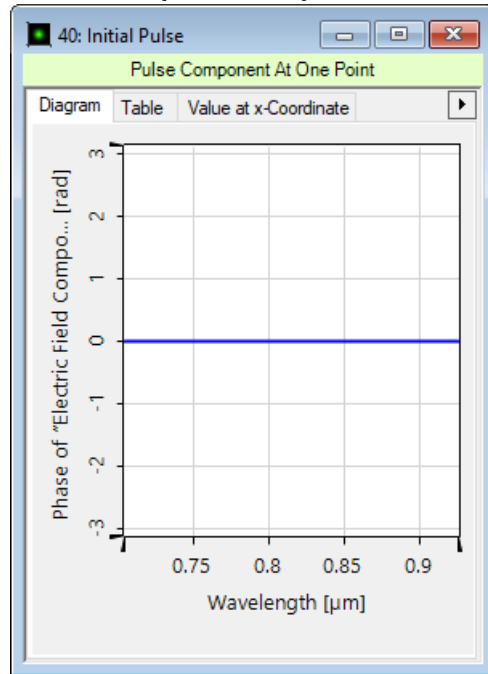
	Data	
	1	2
17	835.54	-1.6611
16	826.61	-1.3289
15	815.89	-0.9967
14	806.07	-0.3322
13	795	0
12	780.36	0.6644
11	769.29	1.3289
10	760	1.3289
9	754.29	1.9933
8	746.25	2.6578
7	739.82	2.99
6	727.32	4.6512
5	719.82	6.9767
4	714.11	9.3023
3	709.29	12.625
2	705	16.944
1	700.18	25.914

Index

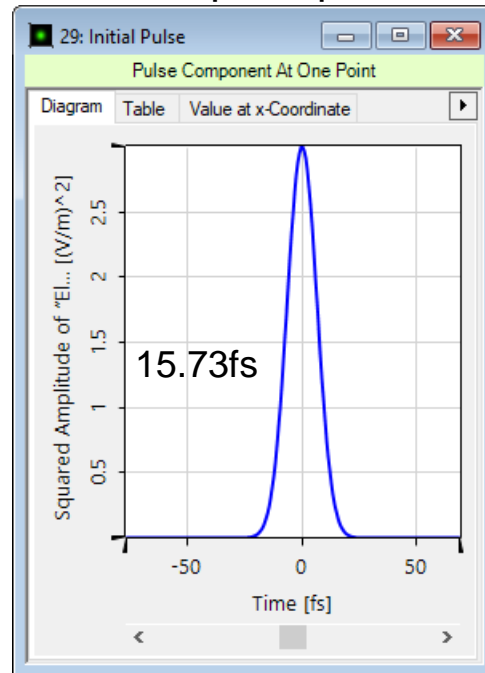


# Example: Layertec 113455

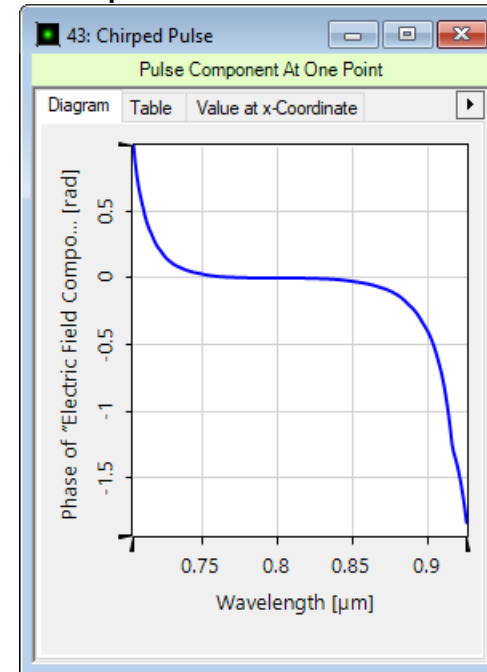
initial spectral phase



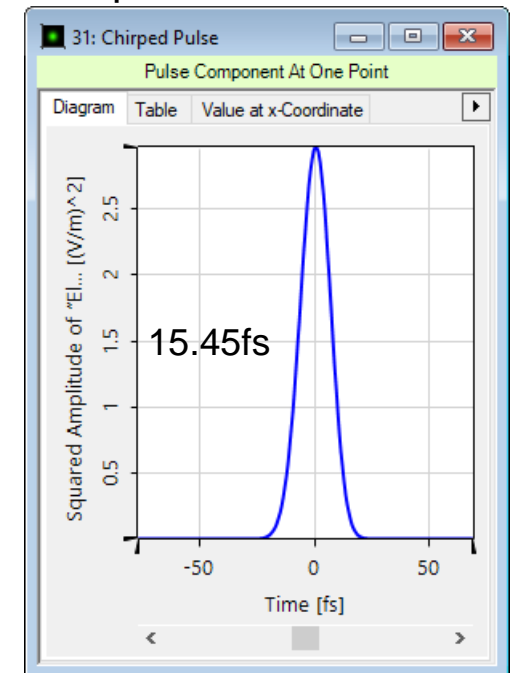
initial temporal pulse



spectral phase after chirped mirror

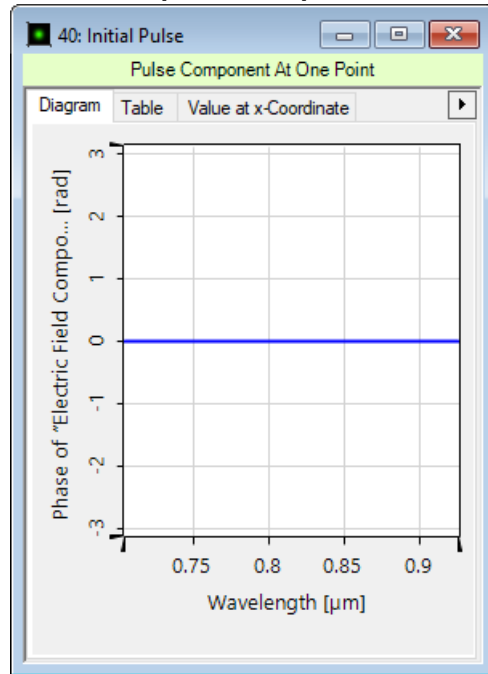


temporal pulse after chirped mirror

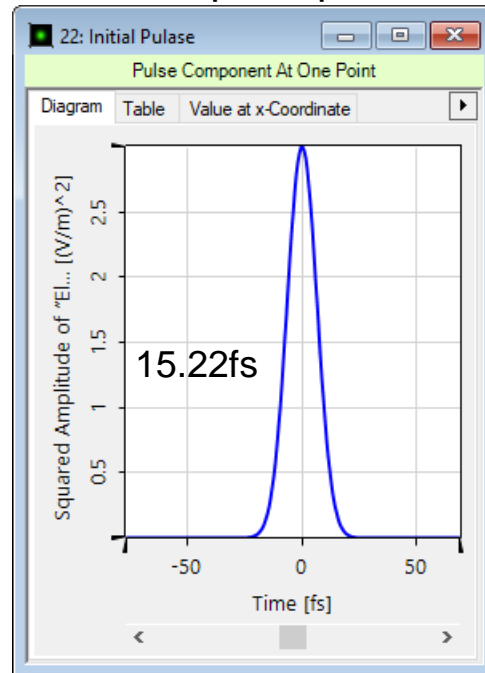


# Example: Layertec 103367

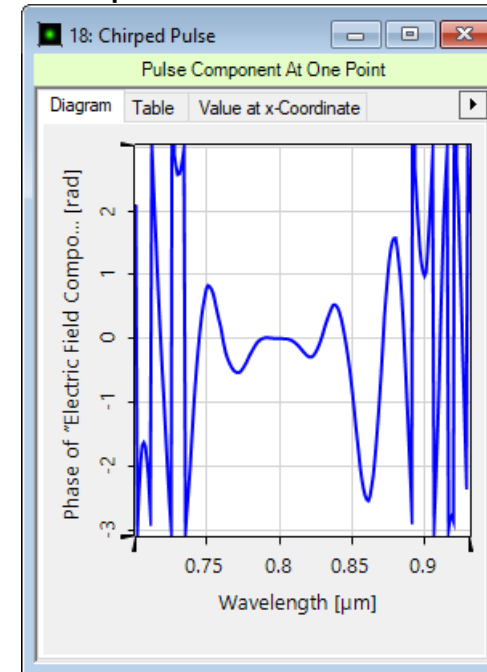
initial spectral phase



initial temporal pulse



spectral phase after chirped mirror



temporal pulse after chirped mirror

