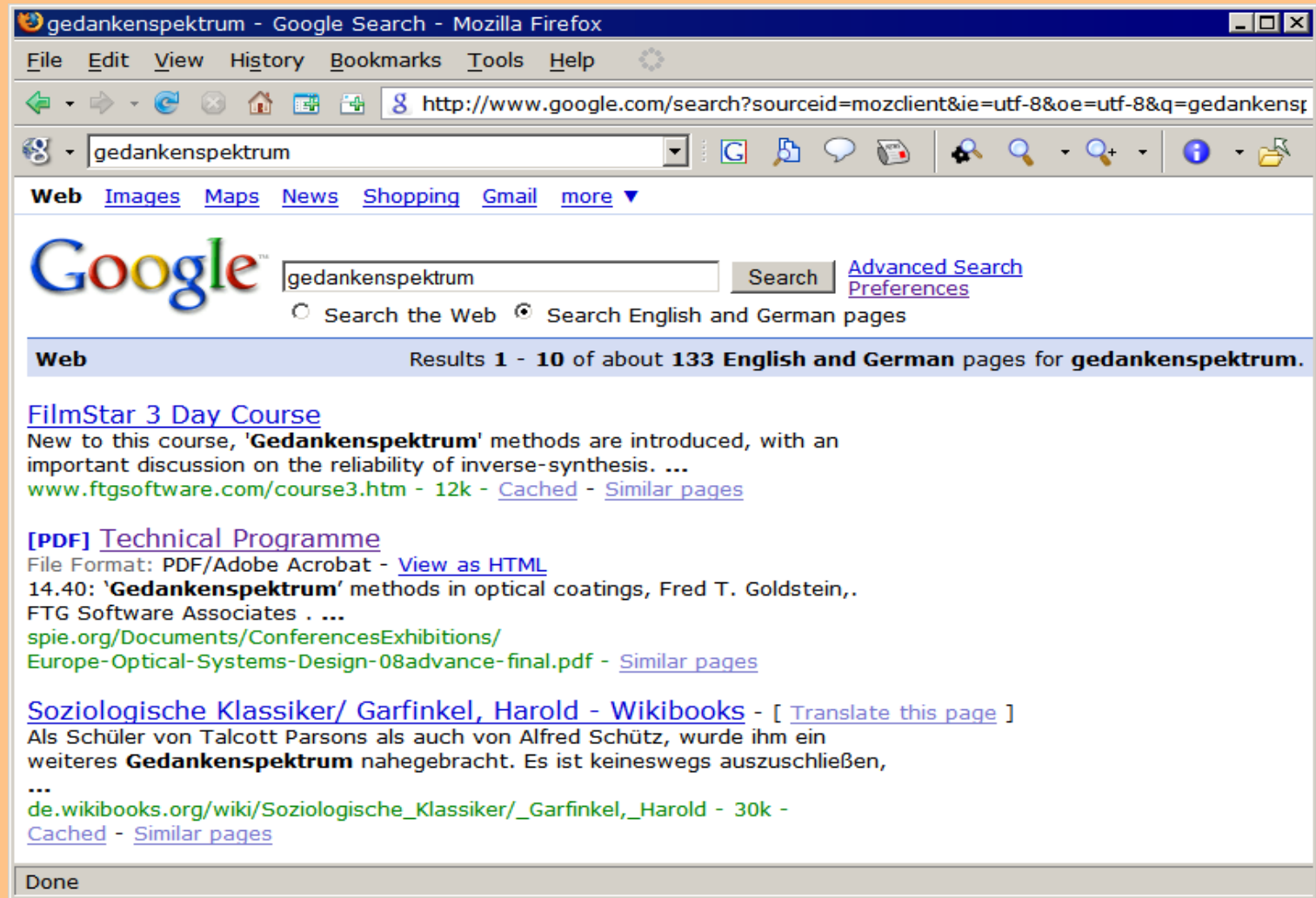


'Gedankenspektrum' Methods in Optical Coatings



Laser output coupler design

Review Design
Edit Window

Design Wave 515 nm FWD ignore Side 2 Angle 0

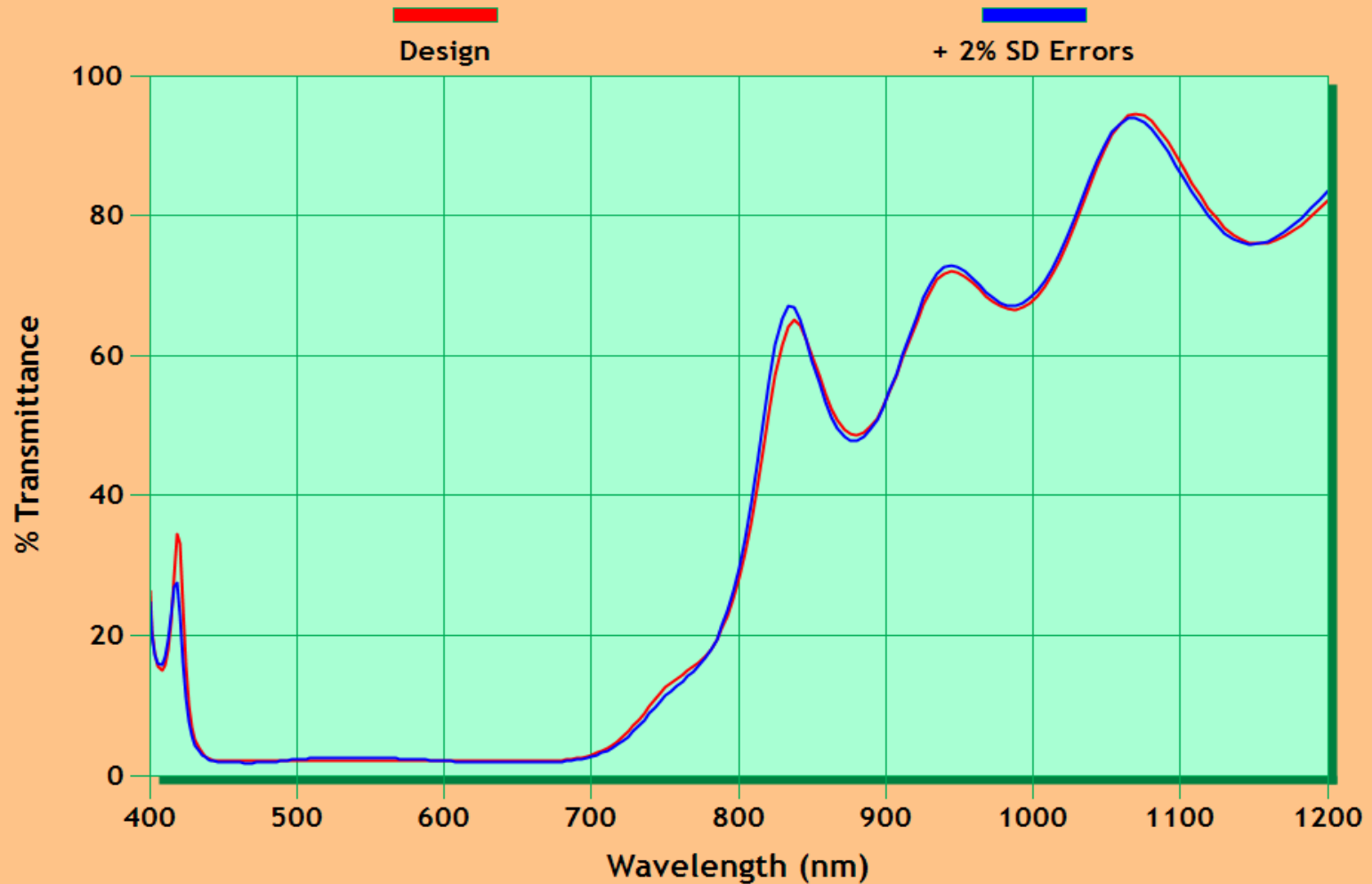
Design (from substrate) - FILM Archive Laser-o 400-1200

	Layer	Unit	Description
	AIR		n=1.00
	SUB		n=1.52
1	.55464	QT	n=2.30
2	.66647	QT	n=1.46
3	.87813	QT	n=2.30
4	.93228	QT	n=1.46
5	.92113	QT	n=2.30
6	.91012	QT	n=1.46
7	.91312	QT	n=2.30
8	.931	QT	n=1.46
9	.95512	QT	n=2.30
10	.97963	QT	n=1.46
11	1.00157	QT	n=2.30
12	1.0208	QT	n=1.46
13	1.0418	QT	n=2.30
14	1.07464	QT	n=1.46
15	1.16004	QT	n=2.30
16	1.35448	QT	n=1.46
17	1.25132	QT	n=2.30
18	1.13437	QT	n=1.46
19	1.15261	QT	n=2.30
20	1.38836	QT	n=1.46
21	1.37044	QT	n=2.30
22	1.1944	QT	n=1.46
23	1.39049	QT	n=2.30
24	1.54712	QT	n=1.46
25	1.295	QT	n=2.30
26	.85204	QT	n=1.46

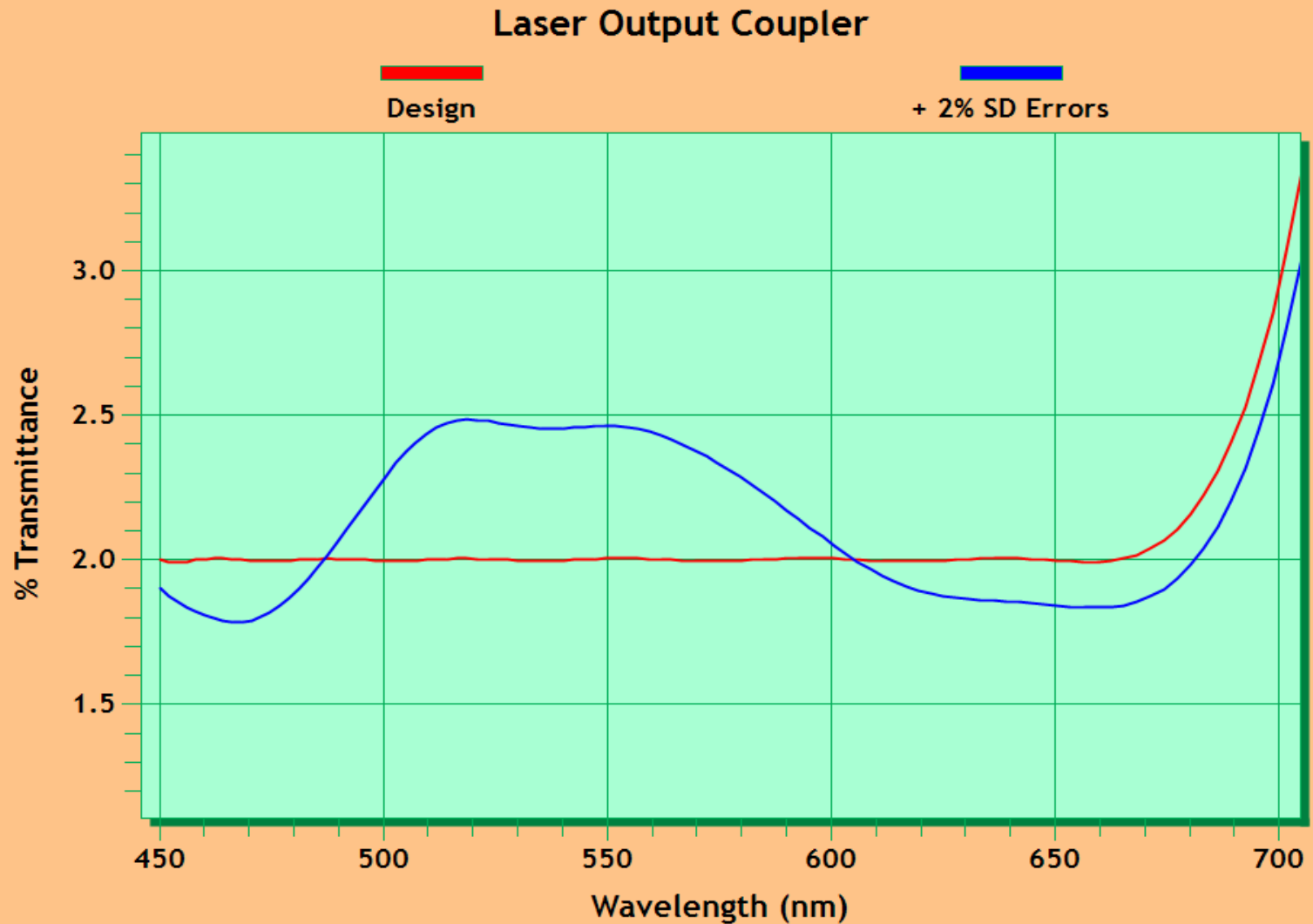
Format 3 - Layer List + Index Descriptions Print Printer... Close

Thickness errors

Laser Output Coupler



Thickness errors

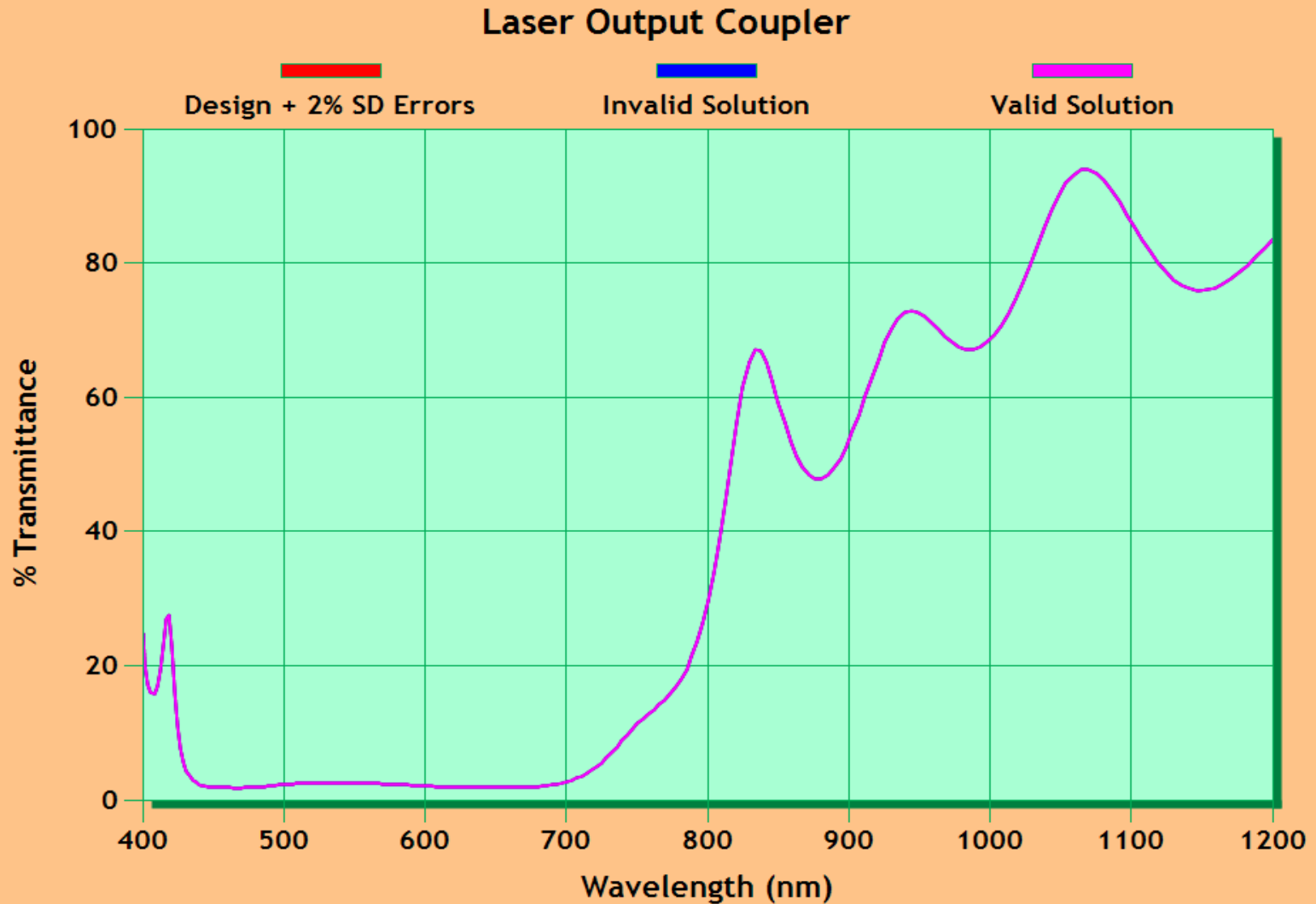


Calculation method

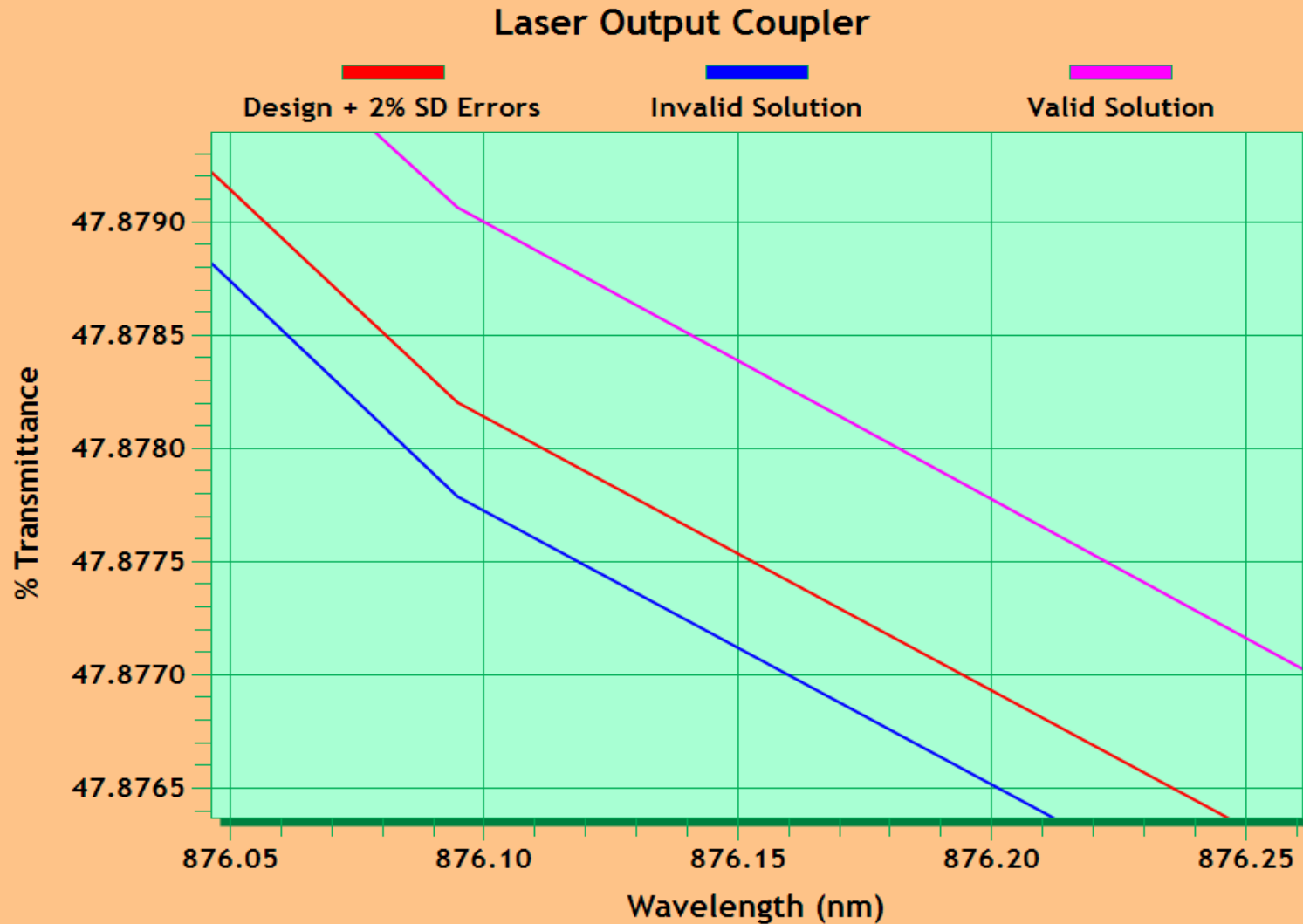
```
FilmStar BASIC - C:\Winfilm\Gedanken\Basic32\FilmSolve0 Code List.bas
File Edit View Macro Debug Sheet Help
Object: (General) Proc: Main
1 Option Explicit
  Option Base 1

Sub Main
  Dim i%, k%, IterNG%, nLayers%, Design0$, qDesign!(), qDesc$(), qSolve!(), qType$()
  Const TestPC! = .5      ' verification value 0.5%
  Const Iter% = 10      ' iterations, change as required
  Design0 = Design      ' retain original design
  Angle = 0             ' normal incidence
  For i = 1 To Iter     ' repeat Iter times
    Design = Design0    ' reassign original design
    CalcRand 0, 1      ' randomize layers, retaining randomized design
    GetLayers nLayers, qDesign(), qType$(), qDesc()
    SpecTargets True, "T", 1, 0, "R" ' convert spectrum to opti targets
    Design = Design0    ' reassign original design for optimizer
    Optimize           ' solve (DLS)
    GetLayers nLayers, qSolve(), qType$(), qDesc()
    For k = 1 To nLayers ' compare layers to original
      If Abs(qSolve(k) - qDesign(k))/qDesign(k) > TestPC/100 Then
        IterNG = IterNG + 1 ' fails
        Exit For           ' exit the loop
      End If
    Next k
  Next i
  Design = Design0      ' restore original design for next iteration
  MsgBox "Confidence Level = " & CStr(100*(Iter - IterNG)/Iter) & "%", _
    vbInformation, "Inverse Synthesis 0°"
End Sub
```

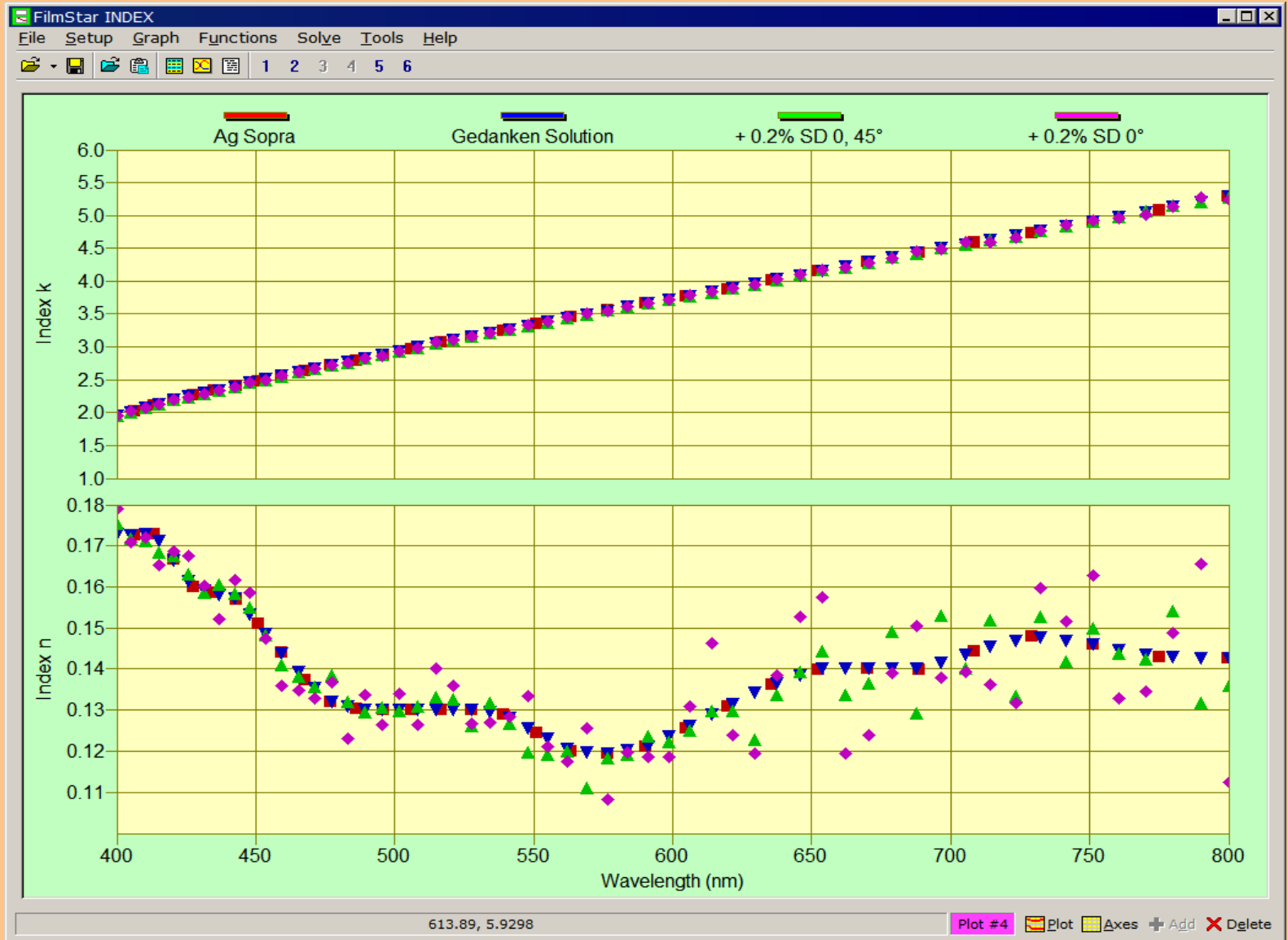
Valid and invalid solutions



Valid and invalid solutions



30 nm Ag Sopra Example



Frank's TiO2

344.26 nm TiO2

