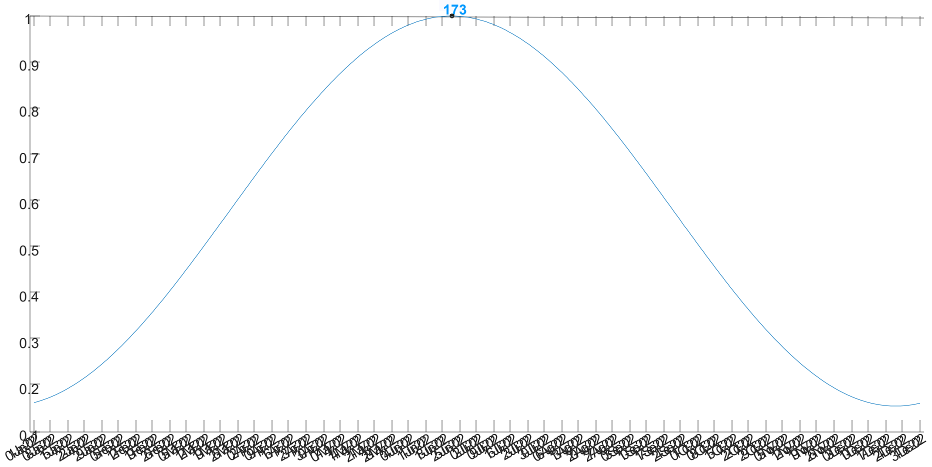
Model the energy intensity of the solar light imput over the year

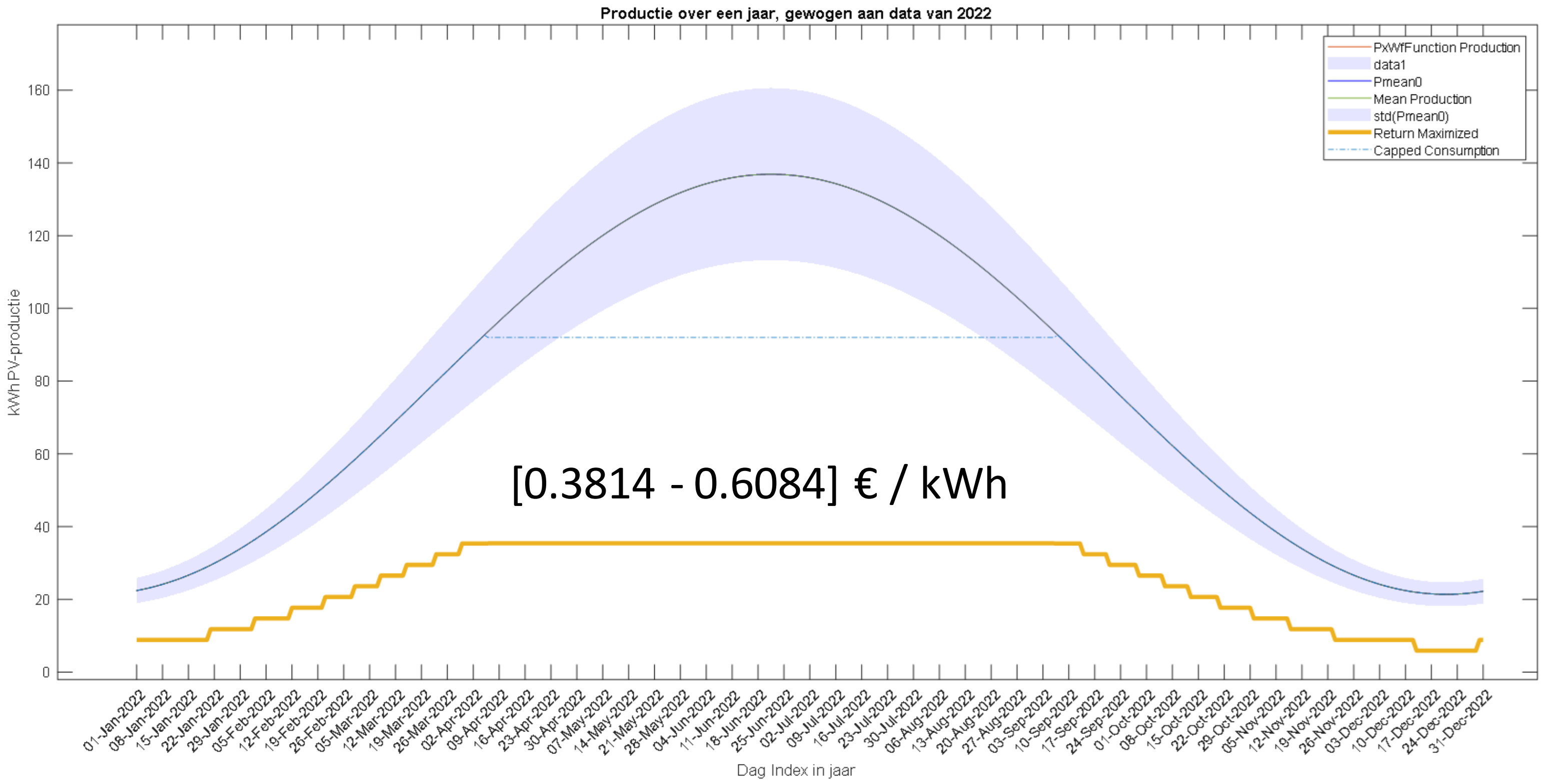
val(x) = a*sin(b*x) - Coefficients (with 95% confidence bounds): a = 13.25 (12.62, 13.87) | b = 1.224 (1.204, 1.245)

$$PxDay = \frac{1.318 * \sin\left(1.224 * \left[\frac{1}{365} : 1\right] * \pi - 0.365\right) + 1}{\pi/2}$$

$$PxDay = \frac{1.328 * \sin^2\left(\pi * \left(\frac{1}{365} : \frac{1}{365} : 1\right) + 10 * \pi/365\right)}{\pi/2}$$

Shift = 1-max(PxDay)

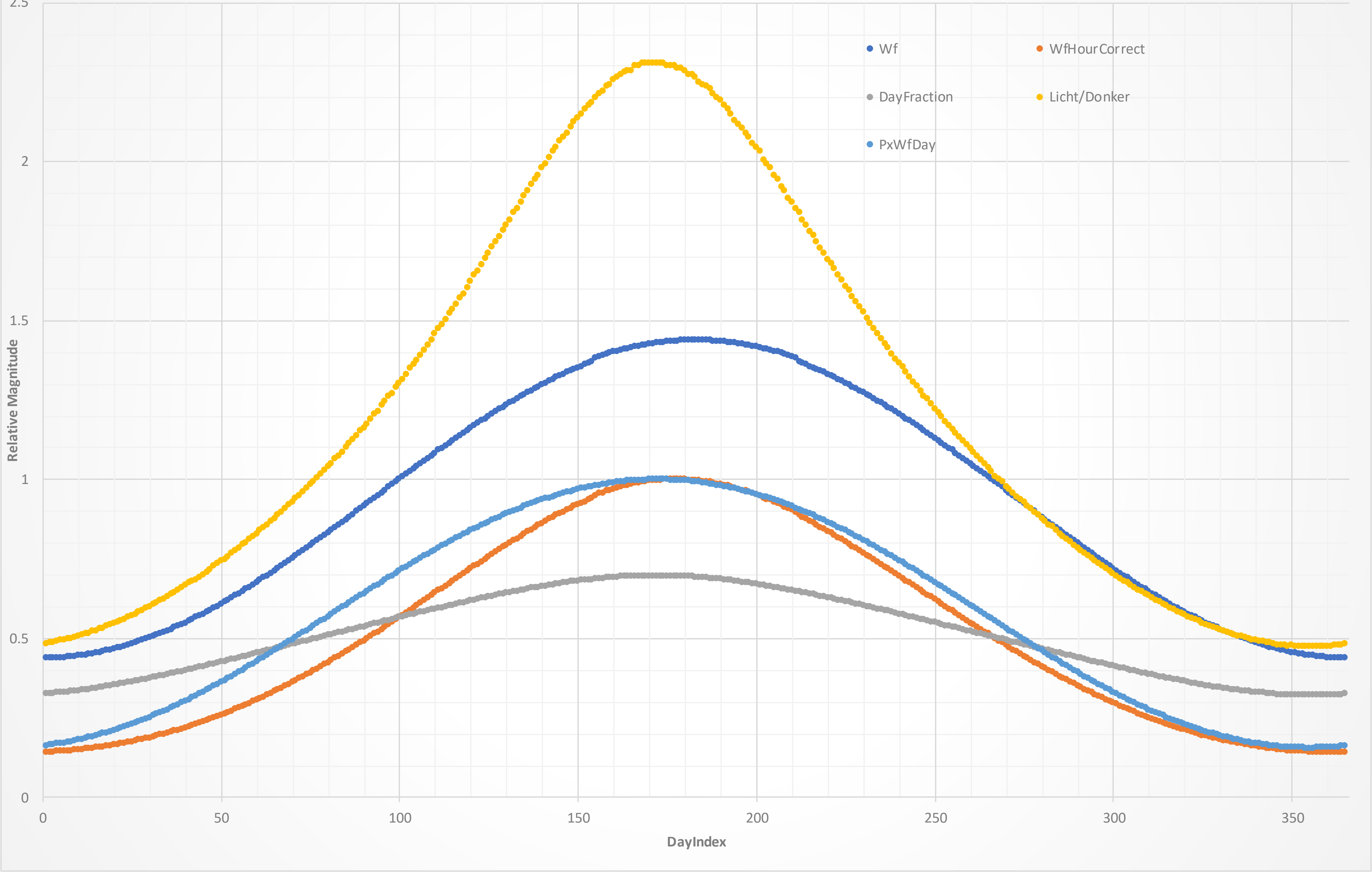




[0.3814 - 0.6084] € / kWh

[€9290,4 - € 14820] Revenue / Year

24358 kWh / Year


Wf
WfHourCorrect
DayFraction
Licht/Donker
PxWfDay
Relative Magnitude
DayIndex
0
0.5
1
1.5
2
2.5
0
50
100
150
200
250
300
350

```
% Dayvector cycling year
dayC=[365/211:365/211:365];
% Circle Cycling vector in rad
xdata = (0:.1:2*pi)';
y0 = sin(xdata);


% Form of Pmax(y(dayC)+offset on 1 jan)
% y(t) = P(t)/Pmax sin(phi*(y0 + pi/2*T))

%Half Period Vector
xdataTfull = (0:pi/62:2*pi)';
xdataThalf = (pi/211:pi/211:pi)';

SampleWeightedDataAtos = [0.50
0.50
...
0.84
..
0.76
...
1.02
..
1.50
..
1.32
..
1.16
];


ycalc = 2.28.*sin(xdataThalf.*SampleWeightedDataAtos + xdataThalf./dayC');
%%
%%
% Add noise to the signal:

noise = 2*y0.*randn(size(y0)); % Response-dependent noise
ydata = y0 + noise;

noise = 2*ycalc.*randn(size(ycalc));
ydata = ycalc + noise;

xdata = xdataThalf;
%%
% Fit the noisy data with a custom sinusoidal model:
f = fittype('a*sin(b*x)');
fit1 = fit(xdata,ydata,f,'StartPoint',[1 1]);
%%
% Find the derivatives of the fit at the predictors:


[d1,d2] = differentiate(fit1,xdata);
```

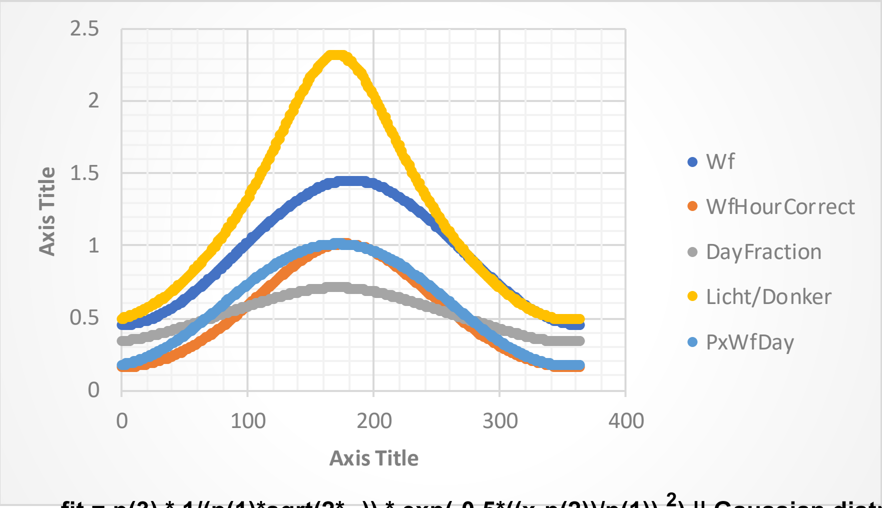
Integrating over pi / 211 steps

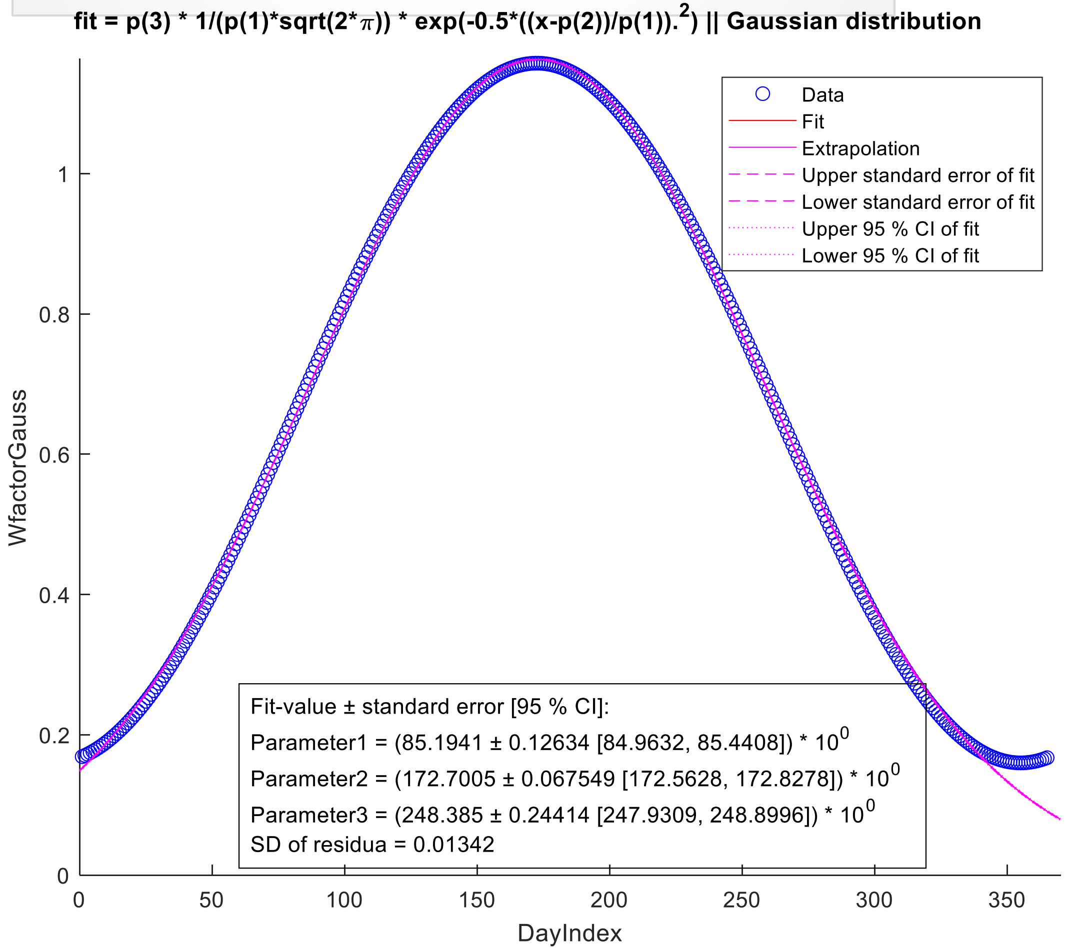
Test the sampleweightedData factor

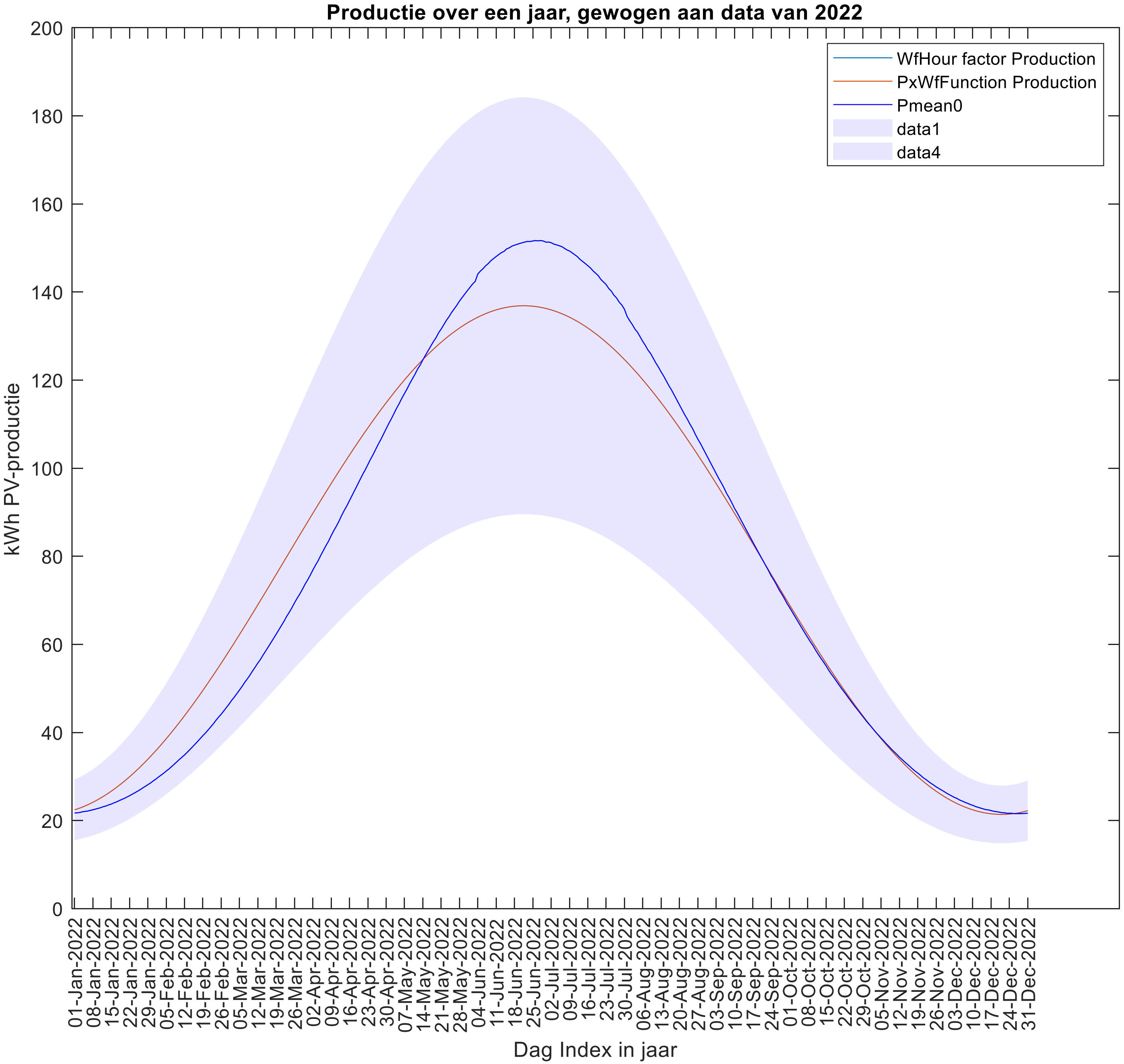
For difference between F(yreal²-ycalc²) to minimize derivate function and find local minima F by: F'(yreal²-ycalc²) == 0 as optimal assymptote

Input the real std(measured data) here instead

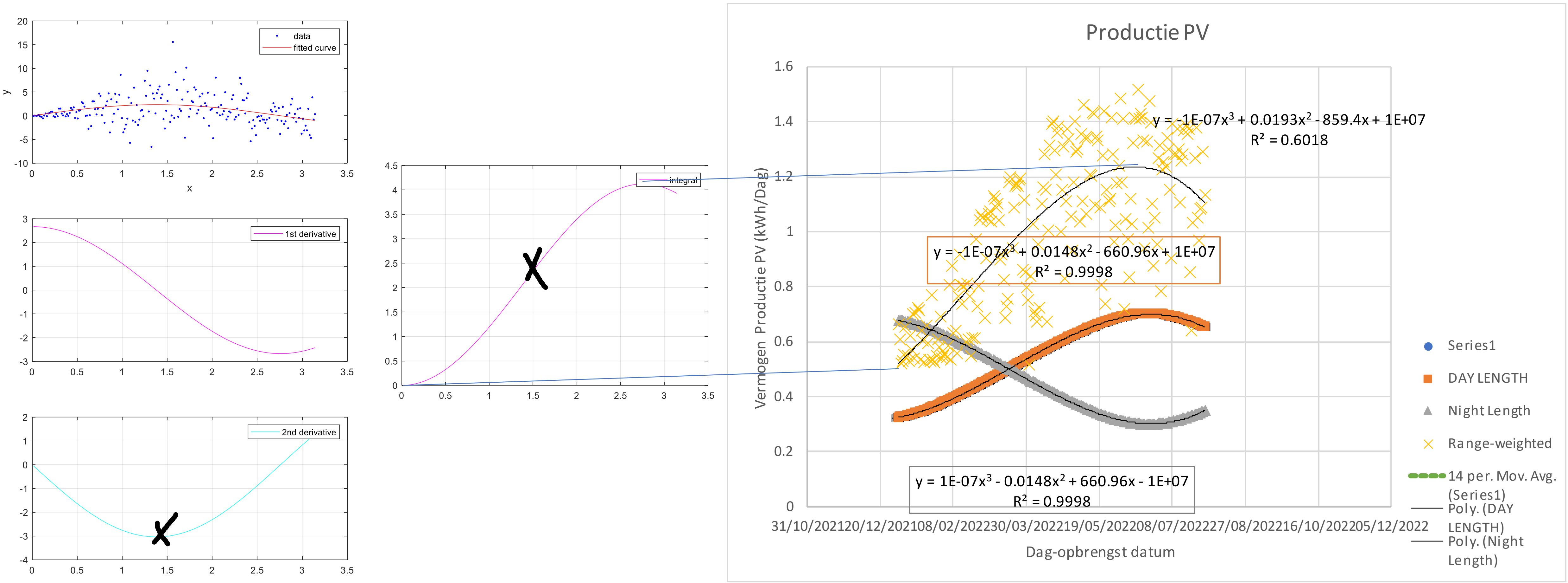
```
%%
% Plot the data, the fit, and the derivatives:

subplot(3,1,1)
plot(fit1,xdata,ydata) % cfit plot method
subplot(3,1,2)
plot(xdata,d1,'m') % double plot method
grid on
legend('1st derivative')
subplot(3,1,3)
plot(xdata,d2,'c') % double plot method
grid on
legend('2nd derivative')


%%
% Note that derivatives can also be computed and plotted directly with the
% cfit plot method, as follows.
% The plot method, however, does not return data on the derivatives.


plot(fit1,xdata,ydata,{'fit','deriv1','deriv2'})


%%
% Find the integral of the fit at the predictors:


int = integrate(fit1,xdata,0);


%%
% Plot the data, the fit, and the integral:


subplot(2,1,1)
plot(fit1,xdata,ydata) % cfit plot method
subplot(2,1,2)
plot(xdata,int,'m') % double plot method
grid on
legend('integral')


%%
% Note that integrals can also be computed and plotted directly with the
% cfit plot method, as follows.
% The plot method, however, does not return data on the integral.


plot(fit1,xdata,ydata,{'fit','integral'})
```

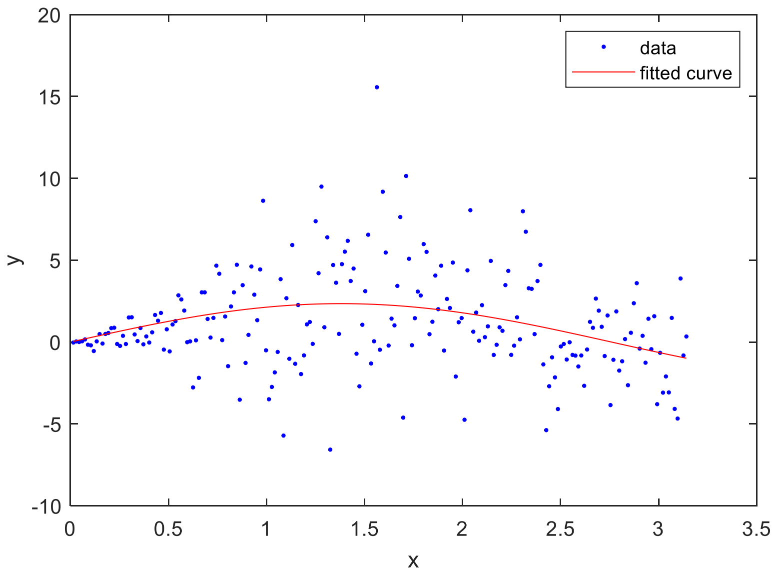


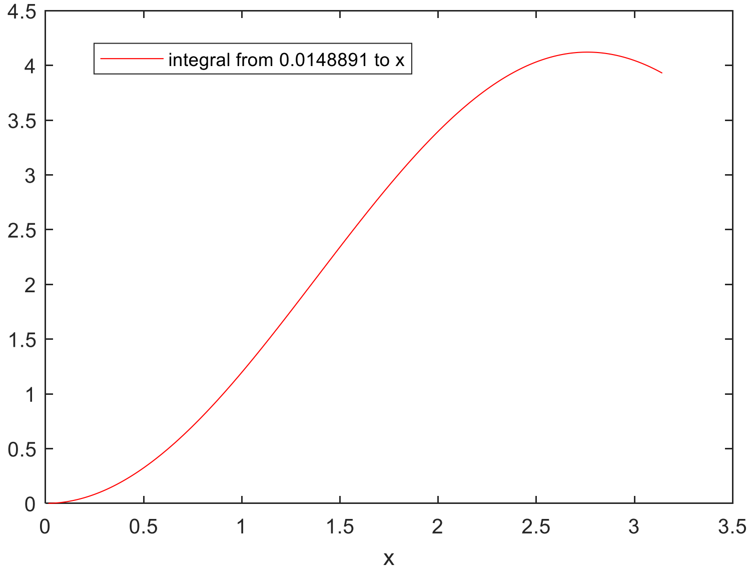


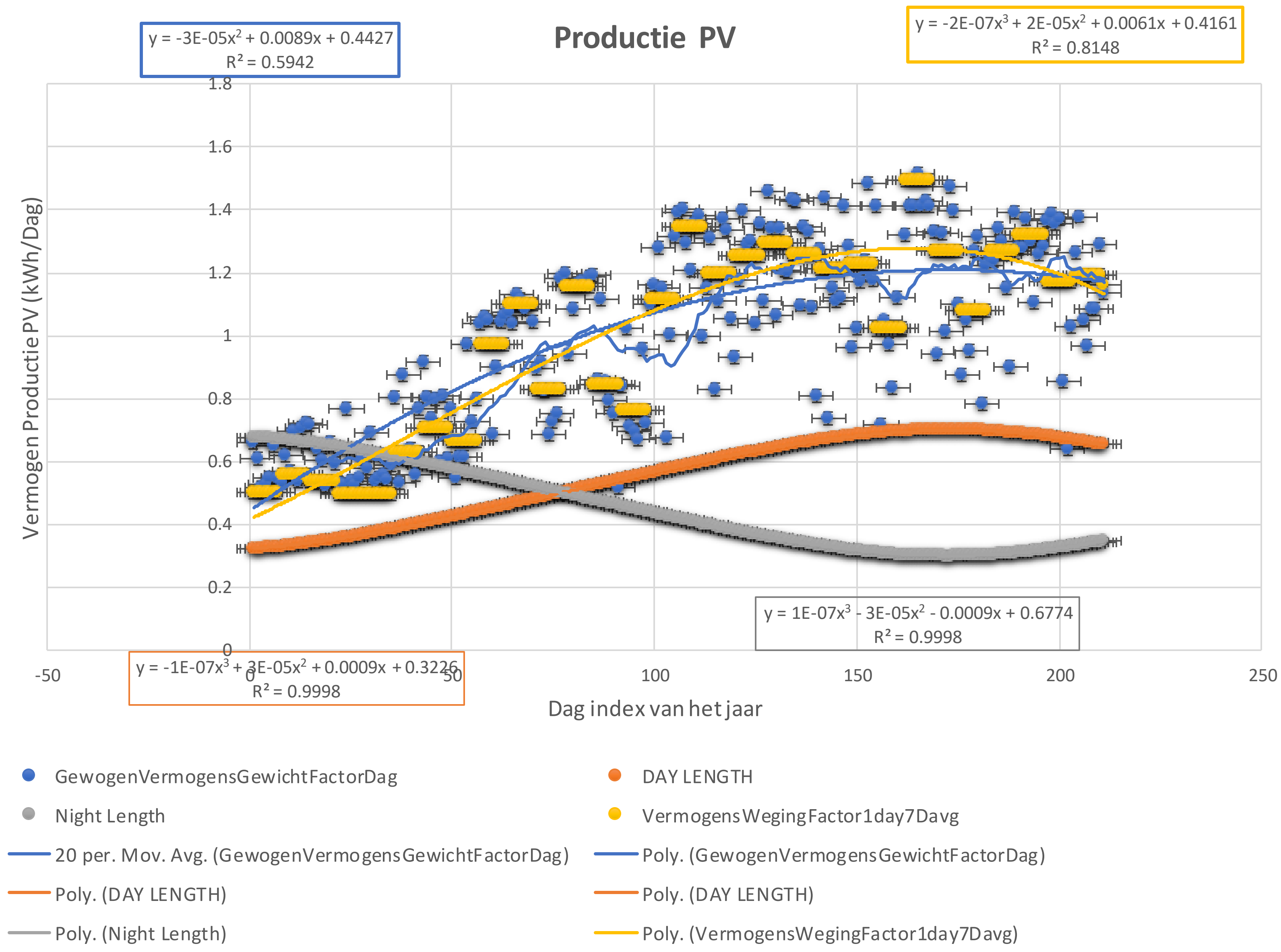


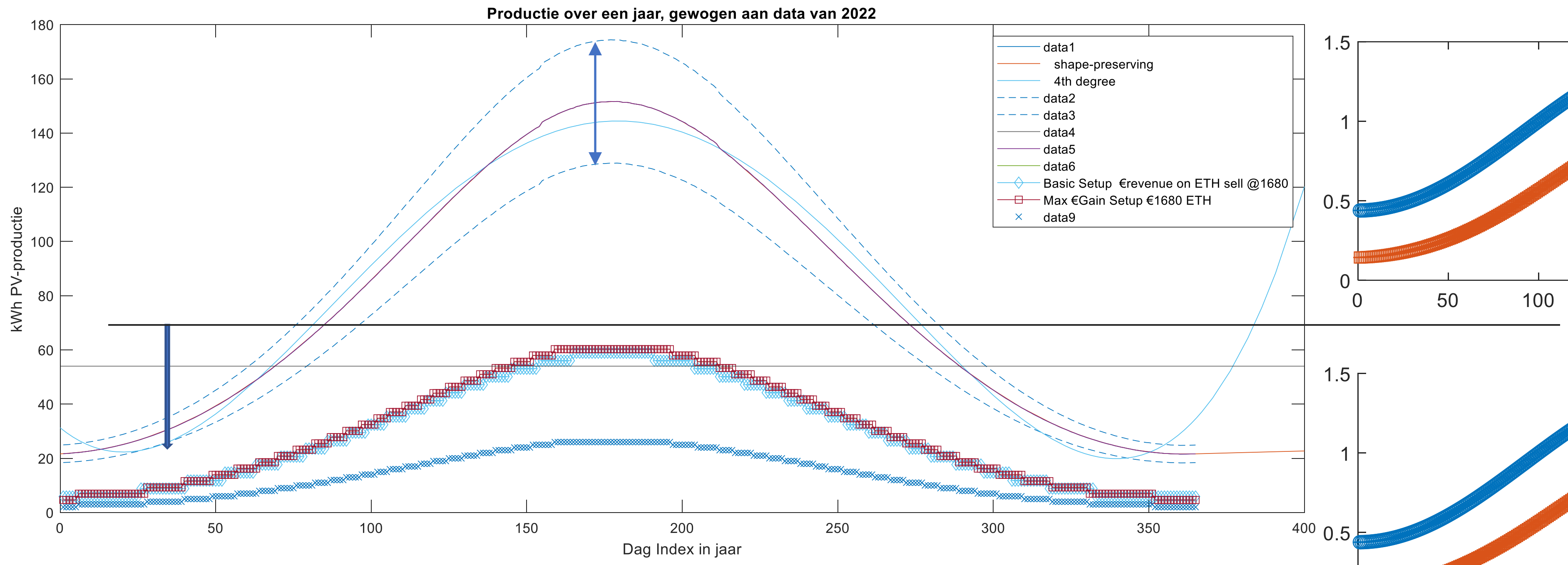
FunctionFittingGauss = 365 * 1/(135*sqrt(2*pi)) * exp(-0.5*((TWfOpti.DayIndex-182.5)/135).^2)

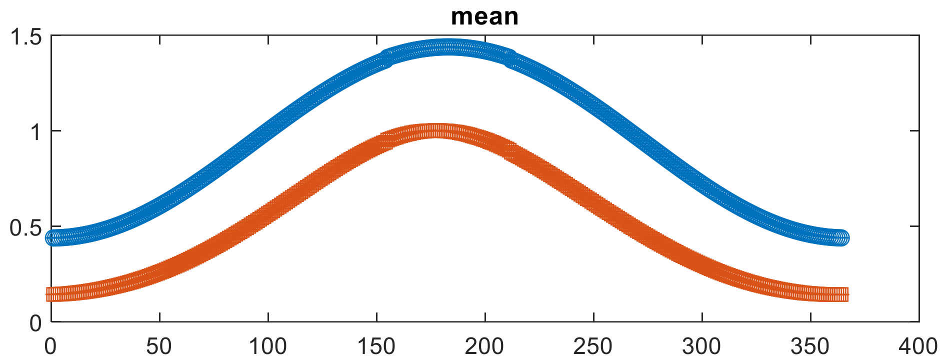

data
fitted curve
y
x
1st derivative
2nd derivative
integral
Productie PV
y = -1E-07x³ + 0.0193x² - 859.4x + 1E+07
R² = 0.6018
y = -1E-07x³ + 0.0148x² - 660.96x + 1E+07
R² = 0.9998
y = 1E-07x³ - 0.0148x² + 660.96x - 1E+07
R² = 0.9998
Vermogen Productie PV (kWh/Dag)
Dag-opbrengst datum
31/10/2021 20/12/2021 08/02/2022 30/03/2022 19/05/2022 08/07/2022 27/08/2022 16/10/2022 05/12/2022
Series1
DAY LENGTH
Night Length
Range-weighted
14 per. Mov. Avg. (Series1)
Poly. (DAY LENGTH)
Poly. (Night Length)

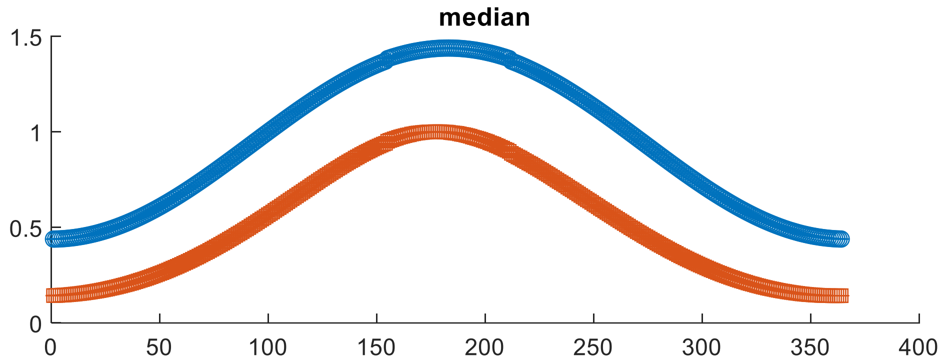

data
fitted curve
y
x
20
15
10
5
0
-5
-10
0
0.5
1
1.5
2
2.5
3
3.5


integral from 0.0148891 to x
x
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
0
0.5
1
1.5
2
2.5
3
3.5

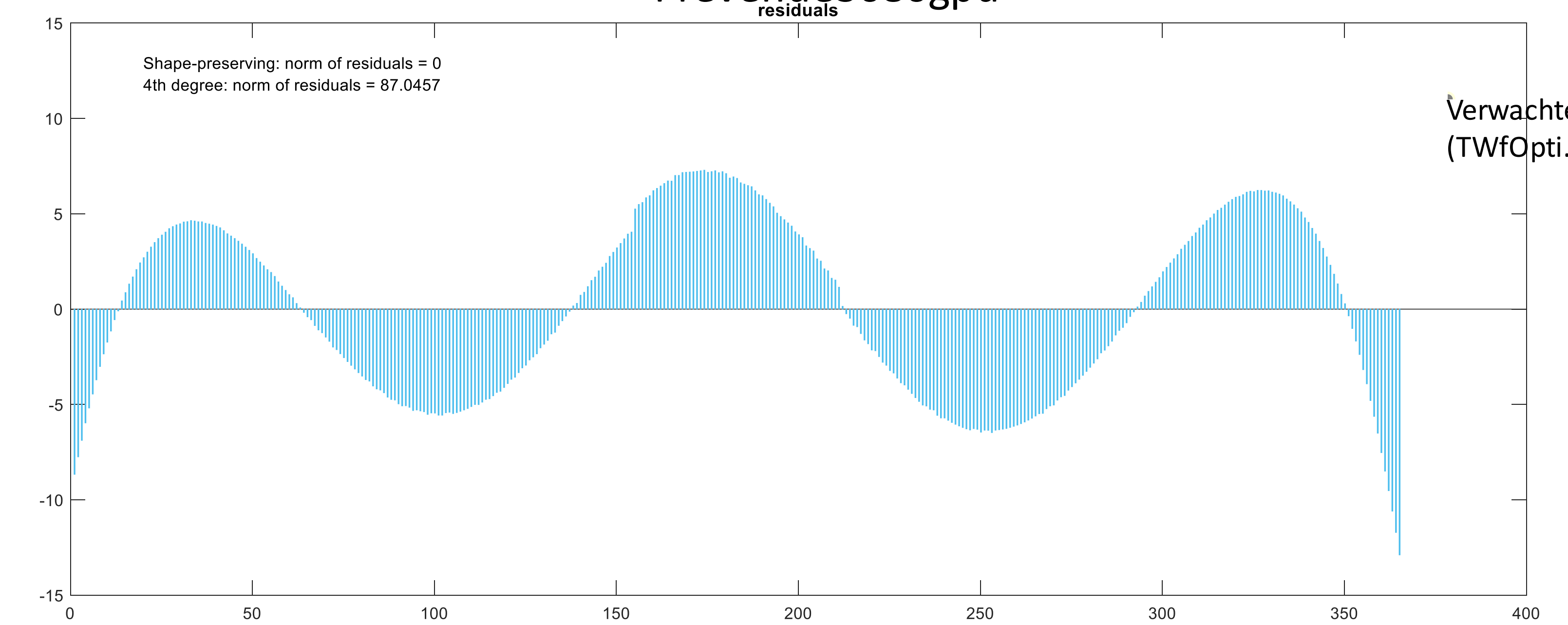

Productie PV
y = -3E-05x² + 0.0089x + 0.4427
R² = 0.5942
y = -2E-07x³ + 2E-05x² + 0.0061x + 0.4161
R² = 0.8148
y = 1E-07x³ - 3E-05x² - 0.0009x + 0.6774
R² = 0.9998
y = -1E-07x³ + 3E-05x² + 0.0009x + 0.3226
R² = 0.9998
Vermogen Productie PV (kWh/Dag)
Dag index van het jaar
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
-50
0
50
100
150
200
250
GewogenVermogensGewichtFactorDag
Night Length
20 per. Mov. Avg. (GewogenVermogensGewichtFactorDag)
Poly. (DAY LENGTH)
Poly. (Night Length)
DAY LENGTH
VermogensWegingFactor1day7Davg
Poly. (GewogenVermogensGewichtFactorDag)
Poly. (DAY LENGTH)
Poly. (VermogensWegingFactor1day7Davg)



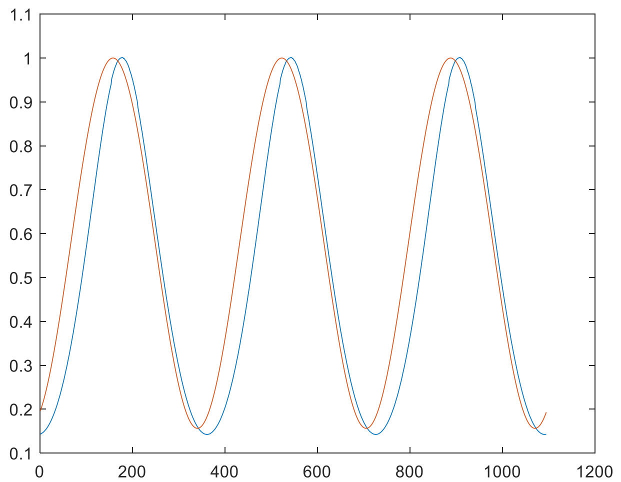


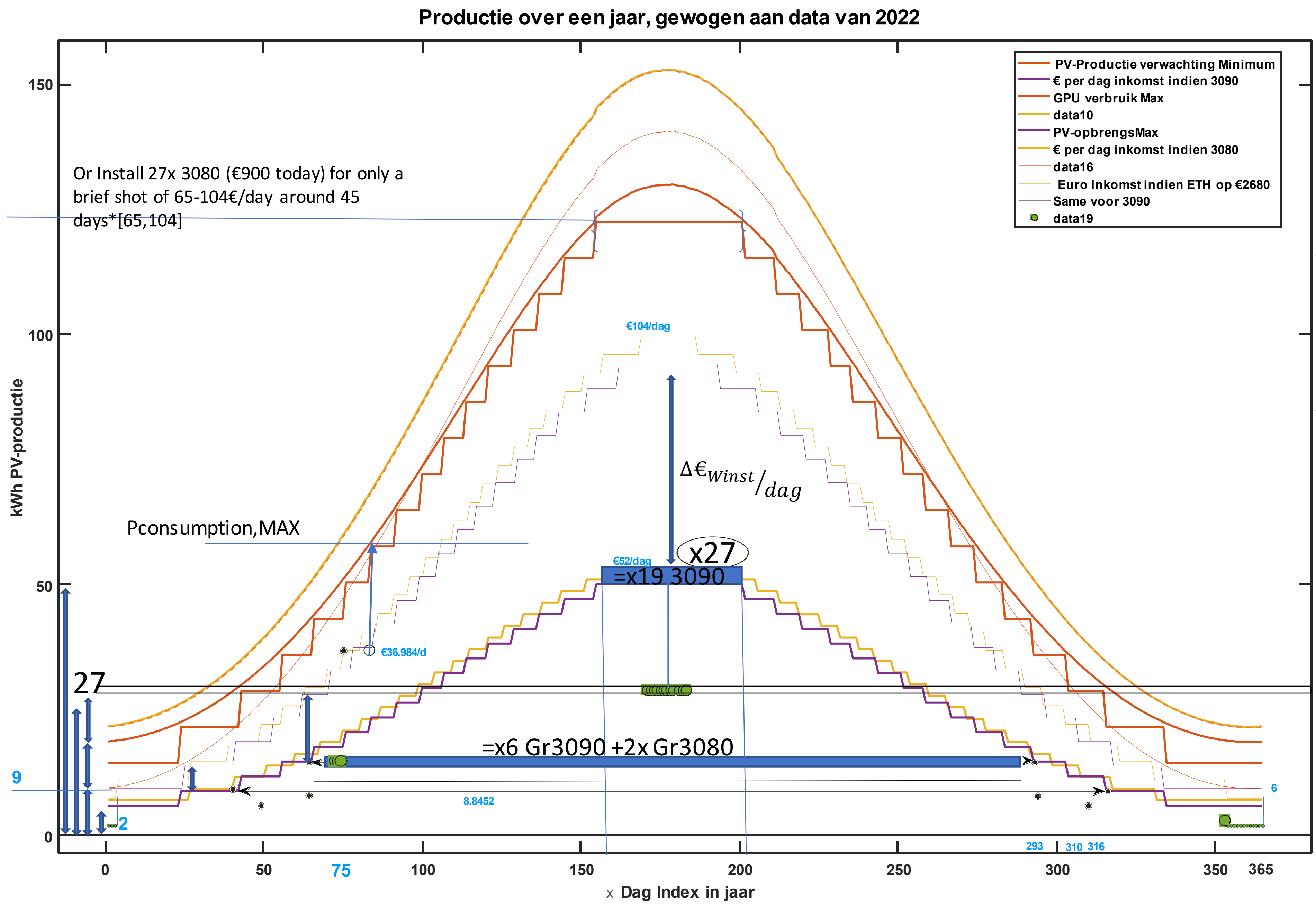


Prevenue3080gpu



VerwachteDagOpbrengst =
(TWfOpti.WfHourCorrect ./ SumWfHH)*WppYmeanHH*365*24;



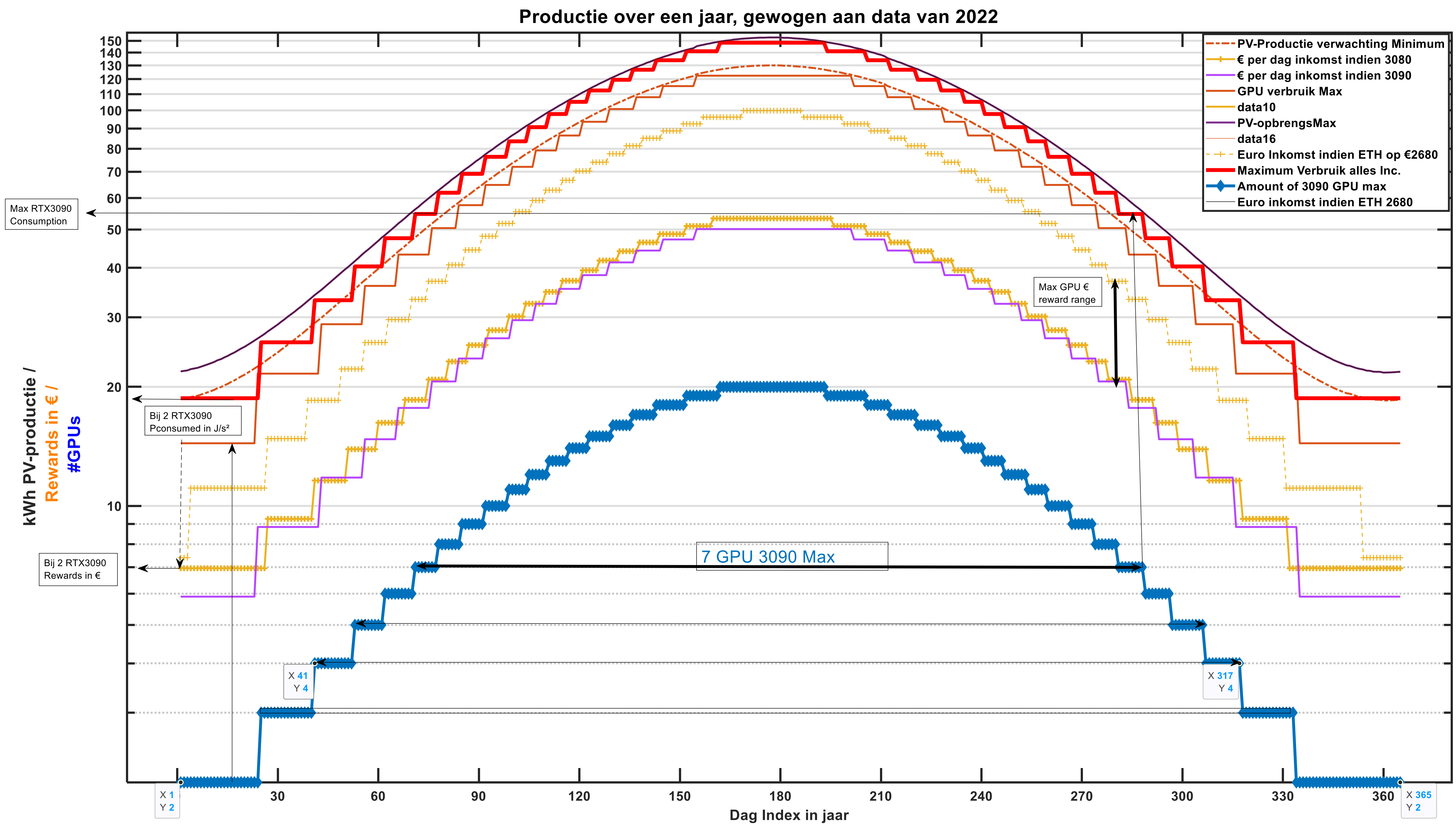


Be aware about the baseline consumption
There is a limited amount of GPU's fittin
on one mainboard
And definetly a secure amount to place o
one motherboard

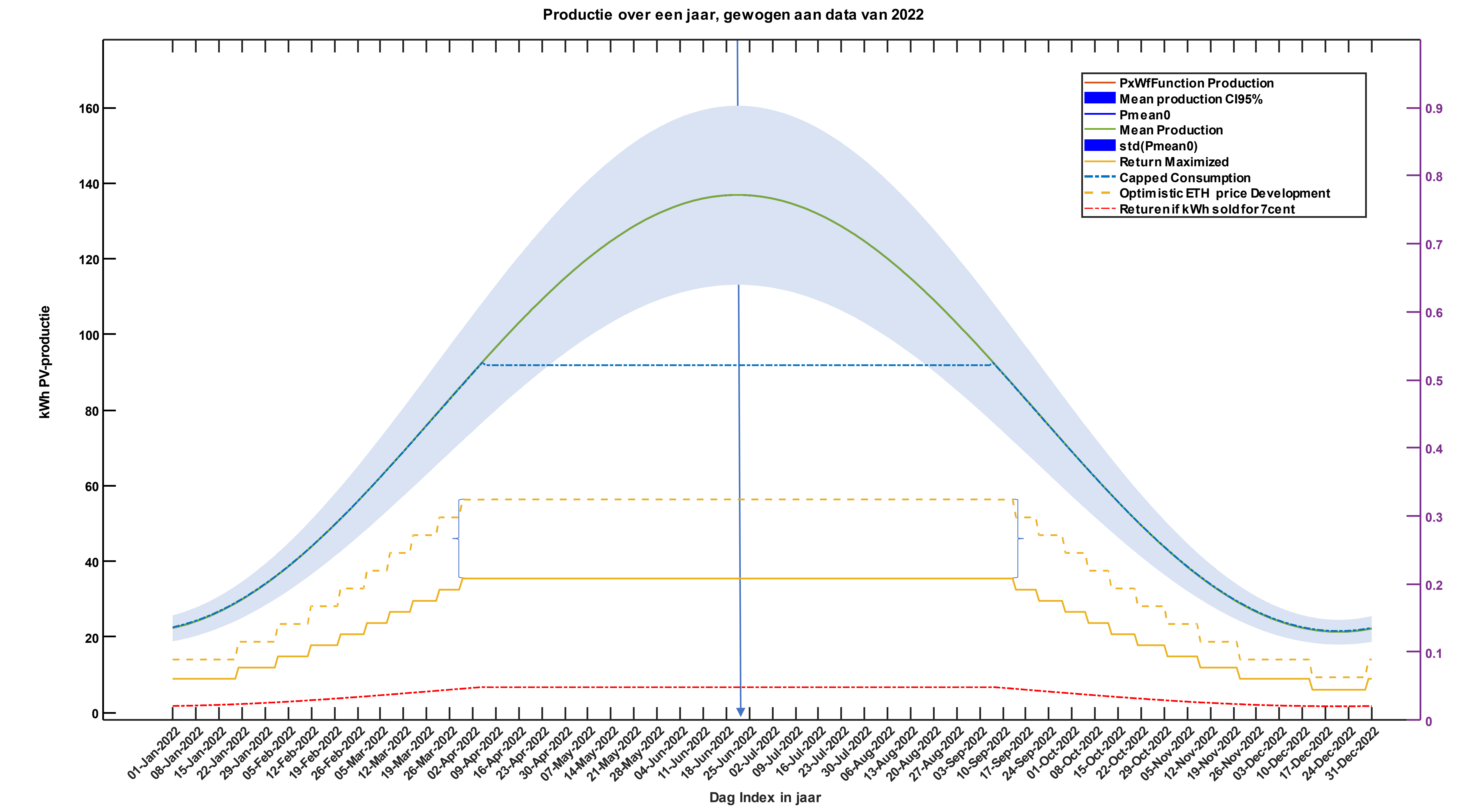
Imagine the 27 gpus requiring abou optimistically only 6 motherboards, woul increase a 90-120W baseline in the winte to modulate.

=> Conclusion, the more that fit efficientl on 2 mainboards(motherboard) will b most probably the highest return/cost rati

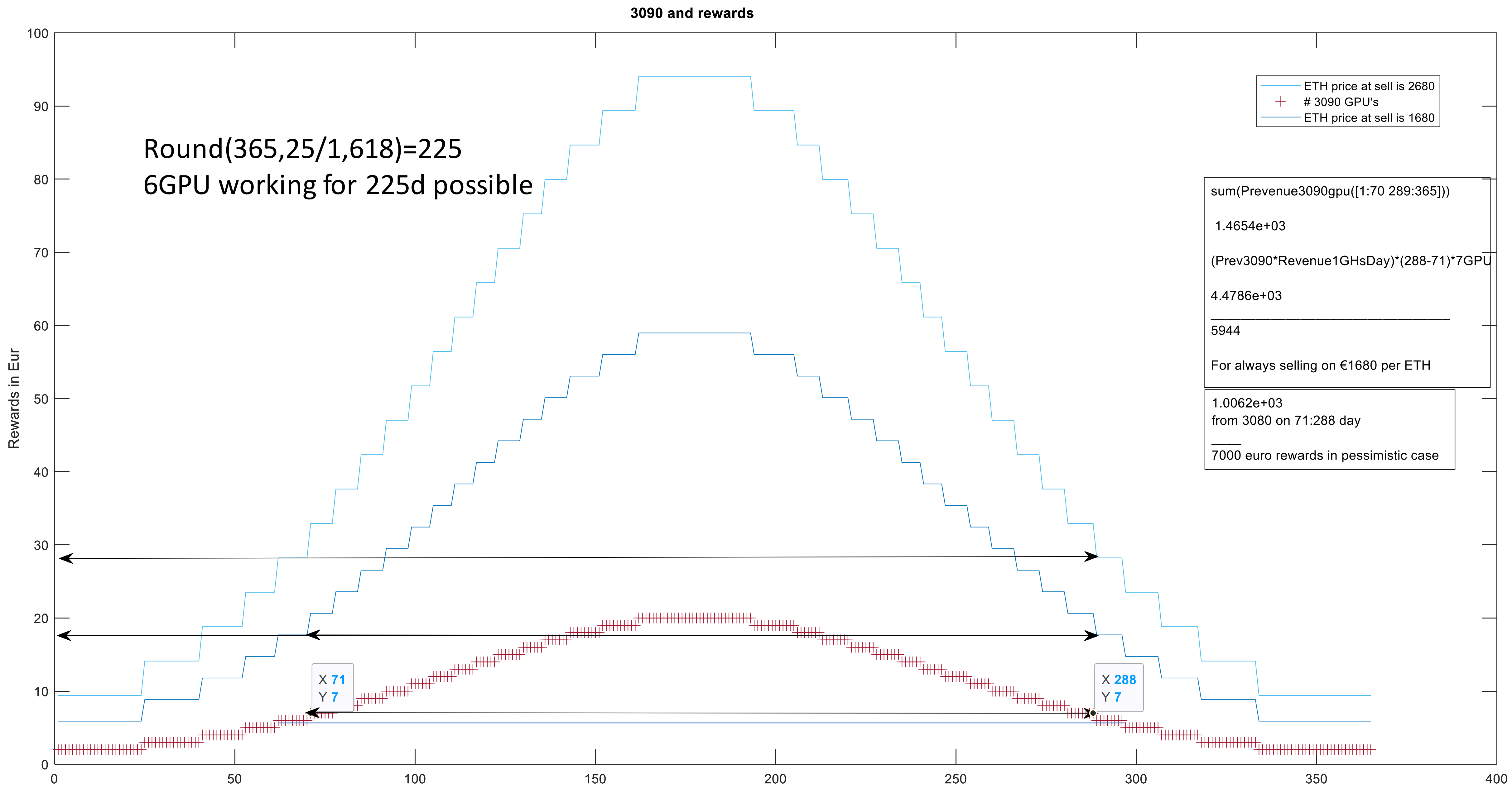
- Size matters, too big is too big and will fail.. E.g. 900€ implying 8 GPU per motherboard (€280 + I3 processor & RAM= €450) implies that the initial investment is € 26000-30000 for 45 days in a year the yield based on this prognosis is €4500-9000 in this period.
- => it takes much longer and a lot more optmization work as input to yield maybe the optimized



Productie over een jaar, gewogen aan data van 2022
PV-Productie verwachting Minimum
€ per dag inkomst indien 3080
€ per dag inkomst indien 3090
GPU verbruik Max
data10
PV-opbrengsMax
data16
Euro Inkomst indien ETH op €2680
Maximum Verbruik alles Inc.
Amount of 3090 GPU max
Euro inkomst indien ETH 2680
Max RTX3090 Consumption
Bij 2 RTX3090 Pconsumed in J/s²
Bij 2 RTX3090 Rewards in €
Max GPU € reward range
7 GPU 3090 Max
X 41 Y 4
X 317 Y 4
X 1 Y 2
X 365 Y 2
kWh PV-productie / Rewards in € / #GPUs
Dag Index in jaar



Productie over een jaar, gewogen aan data van 2022
kWh PV-productie
Dag Index in jaar
PxWfFunction Production
Mean production CI95%
Pmean0
Mean Production
std(Pmean0)
Return Maximized
Capped Consumption
Optimistic ETH price Development
Returen if kWh sold for 7cent


3090 and rewards
Rewards in Eur
ETH price at sell is 2680
3090 GPU's
ETH price at sell is 1680
Round(365,25/1,618)=225
6GPU working for 225d possible
sum(Prevenue3090gpu([1:70 289:365]))
1.4654e+03
(Prev3090*Revenue1GHsDay)*(288-71)*7GPU
4.4786e+03
5944
For always selling on €1680 per ETH
1.0062e+03
from 3080 on 71:288 day
7000 euro rewards in pessimistic case
X 71
Y 7
X 288
Y 7
0
10
20
30
40
50
60
70
80
90
100
0
50
100
150
200
250
300
350
400

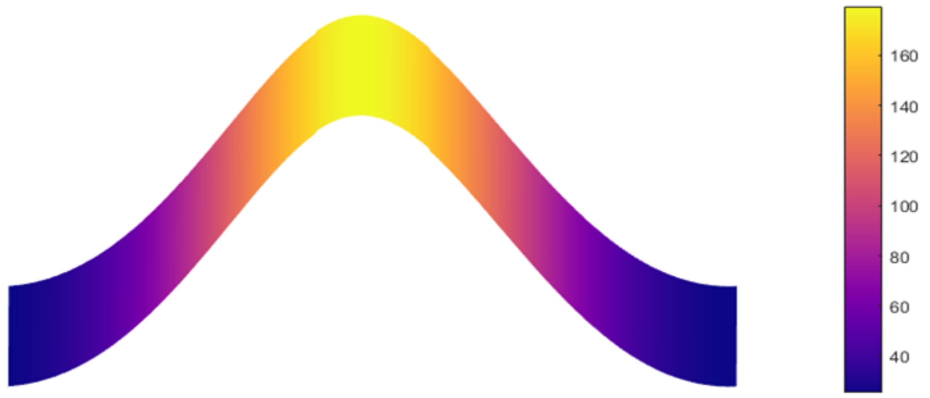
JointSolar BV ?????

Prognosis lifetime: 12-15y based on the product guarantee security

Things to consider

- Security of a Wake On Lan (WOL) remote control of a dozen Ubuntu OS's on different WLAN/LAN ports.
- If PoS (proof of stake) becomes totally adopted in the cryptocurrency market, this concept will collapse.

- Bitcoin is PoW and again 50% of the total money supply in Blockchaintechnology/Cryptocurrency markets. And will probably remain as such until the lack of rewards on miners will emerge. Leading to the total collapse of a deflating currency inside a superinflatory system.
- 7000-10000 euro's given the 213 day option on 6-7GPU 3090 + 2 GPU 3080 (finetuning lower Power (Watt) GPU's during signicant winter energy shortages)
- If ETH however reaches the €6000 ATH



To do's

- Solve the differential equation for the amount of (n.3080 + m.3090) GPU's that are optimal for doing this job yielding highest d€/dkWh returns.

(Test first solution of 7x3090 + 2x 3080 Nvidia RTX GPU's

- Do your research on the current shortage on Graphical computing power in the field of molecular
modelling institutional requirements..
- The calculated power can be used for about anything with a Graphics card, and about nothing else, in case of ASICs.

So why do I care….

If anyone is buying an asset that is probably paying you in kWh as soon as it is installed, and there is a potential Method to get your return of investment back in 2-3years instead of 8-13years.
People will realize that they have been **spoiled with the ignorance of the intrisic value of the kiloWatt per Hour (kWh)**

Graphical Computing power is power…. an equally underestimated asset to

I am aware that i’m doing the only (not only but) logistically reachable target,
for integrating the 21st centurary plausible target of being self-sustained