

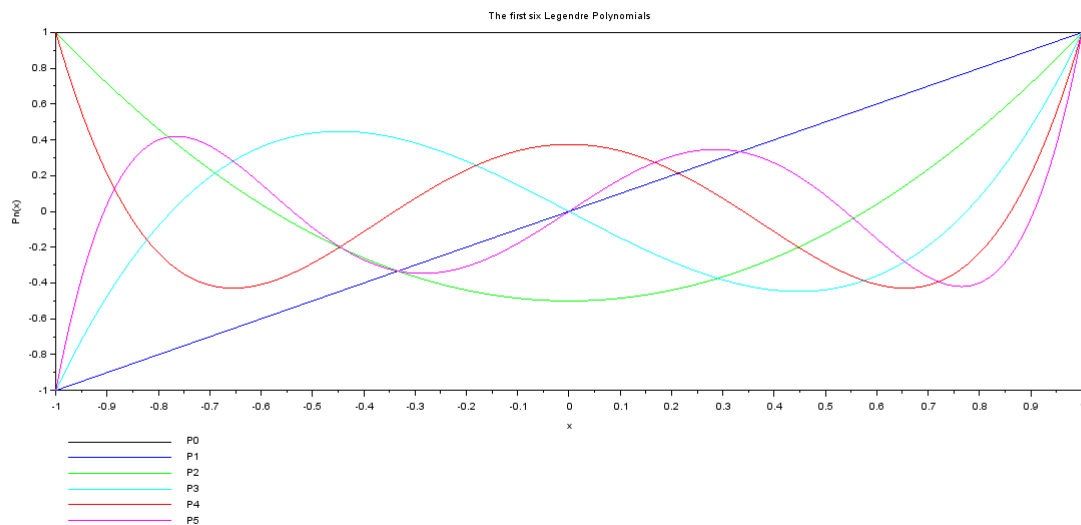
To work with Legendre Polynomials we use the Scilab function *legendre(n,m,x)*.

Which basically returns the value of the Associated Legendre Polynomial for a given value of m, n and x . However, since I only wanted Legendre Polynomials so I'll have to put $m=0$.

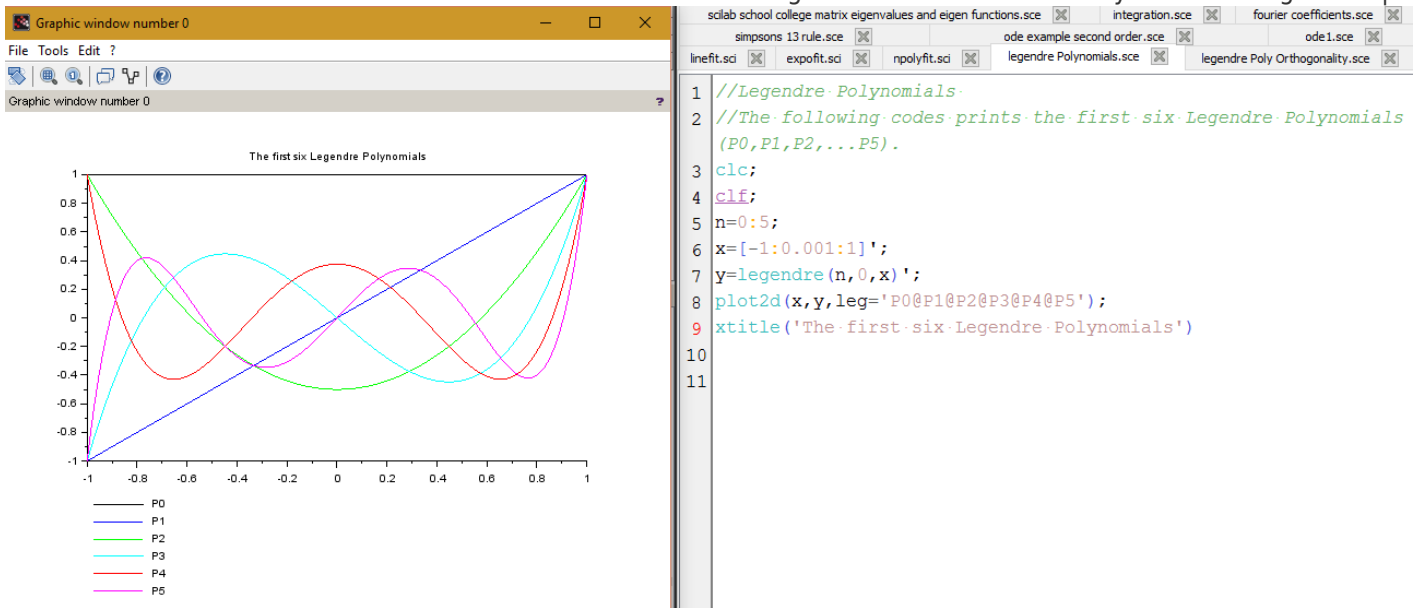
The following code calculates and plots the first six Legendre Polynomials for $x=-1$ to $x=1$.

```
//Legendre Polynomials
//The following codes prints the first six Legendre Polynomials(P0,P1,P2,...P5).
clc;
clf;
n=0:5;
x=[-1:0.001:1]';
y=legendre(n,0,x)';
plot2d(x,y,leg='P0@P1@P2@P3@P4@P5');
xtitle('The first six Legendre Polynomials')
ylabel('Pn(x)');
xlabel('x');
```

The output:



Plotting the First 6 LEGENDRE Polynomials using Scilab | 2

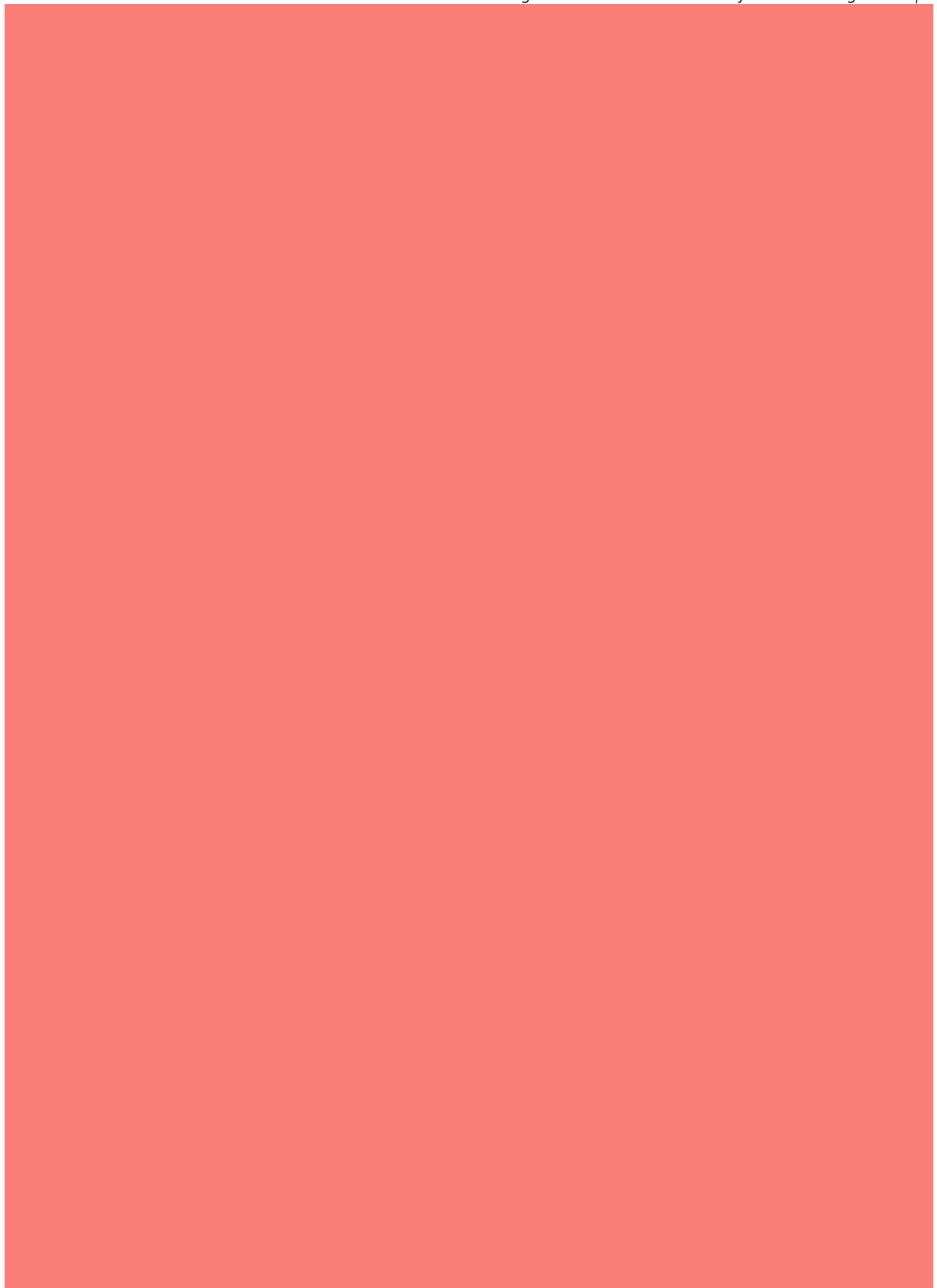


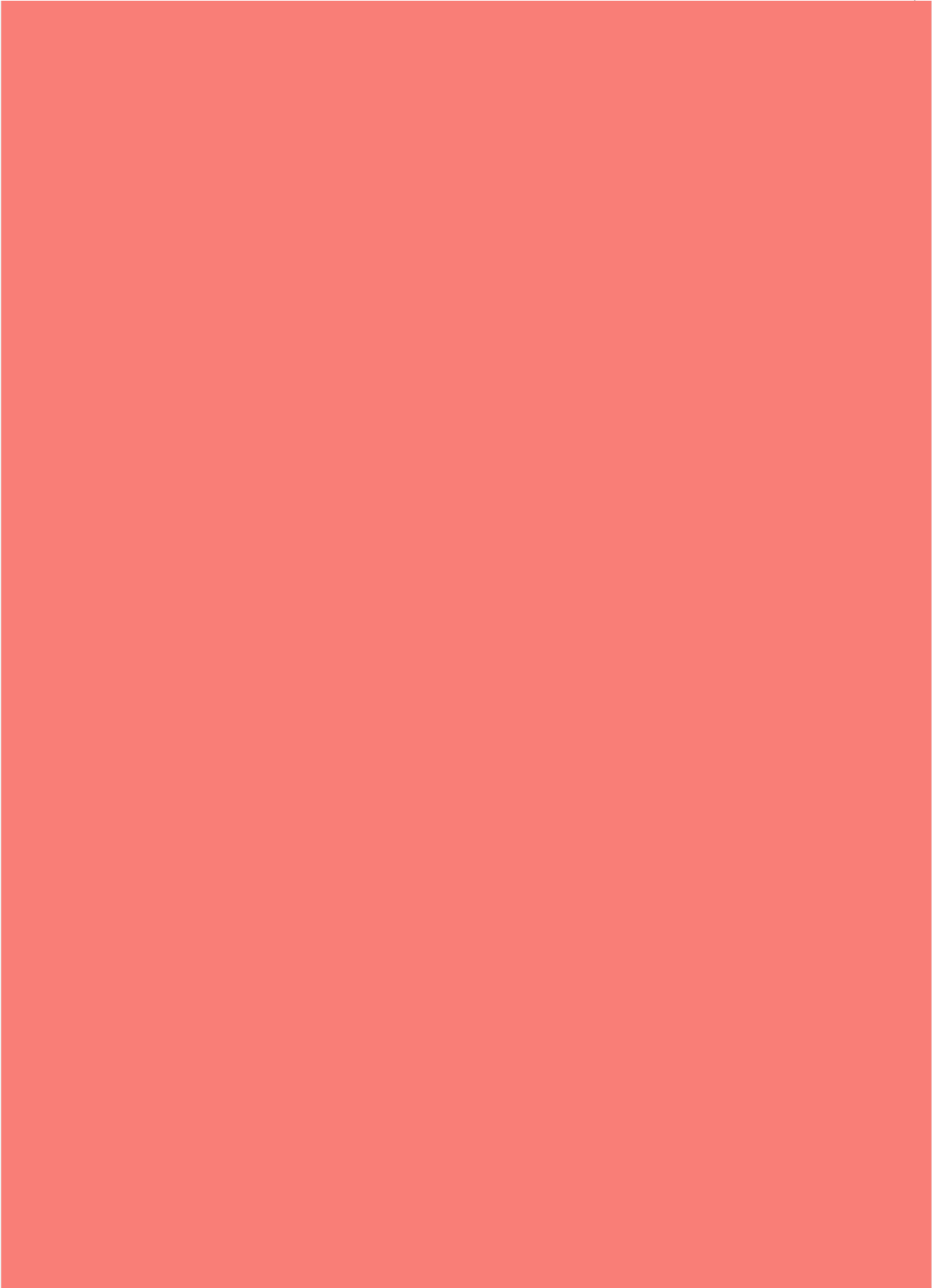
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I'm a physicist specializing in computational material science with a PhD in Physics from Friedrich-Schiller University Jena, Germany. I write efficient codes for simulating light-matter interactions at atomic scales. I like to develop Physics, DFT, and Machine Learning related apps and software from time to time. Can code in most of the popular languages. I like to share my knowledge in Physics and applications using this Blog and a YouTube channel.

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