In this folder you can find numerical examples and simulations that will assist you in understanding the FMO curriculum.

| To execute examples written in wxMaxima (\*.wxm, \*.wxmx) you must first install the open source software **wxMaxima** from (<http://andrejv.github.io/wxmaxima/download.html> or from <https://sourceforge.net/projects/wxmaxima/> ) *All examples have been tested with Maxima-sbcl-5.37.3 version* |  |
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| To execute examples written in Mathematica you must first install the CDF player (Mathematica free reader) από from Wolfram <http://www.wolfram.com/cdf-player/>  *If you already have Mathematica installed there is no need to install the CDF player* | Image result for mathematica logo |
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[Basic principles](#_tacq6cfr14li)

[Dispersion.wxmx (wxMaxima)](#_8r7cmukwnnld)

[Polarization\_Visualization.wxmx (wxMaxima)](#_w9hvkx3oefc)

[Polarizarion\_visualizer.cdf (Mathematica)](#_tbi2m2t83p7)

[Fresnel\_Equations.wxmx (wxMaxima)](#_cf6mrpvi3ata)

Numerical example and simulations list

# Basic principles

## Dispersion.wxmx *(wxMaxima)*

| *(Dispersion.wxm only code, without embedded images )*  Here you can visualise the effect of dispersion in electric polarization and the refractive index *(based on the Lorenz model)* |  |
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## Polarization\_Visualization.wxmx *(wxMaxima)*

| *(Polarization\_Visualization.wxm only code, without embedded images)*  Here you can visualise various polarization states. You can also visualise any mixture of polarization states (*elliptical + linear* etc.) |  |
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## Polarizarion\_visualizer.cdf *(Mathematica)*

| Here you can interactively visualise various polarization states. |  |
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## Fresnel\_Equations.wxmx *(wxMaxima)*

| *(Fresnel\_Equations.wxm μόνο κώδικας χωρίς εικόνες)*  *Here you can study the effect of reflection and refraction on the amplitude and phase of the respective beams. (Based on Fresnel equations)* |  |
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