

## Application Scenario 231.01: Simulation of a Light Source with the Spectrum of the Sun

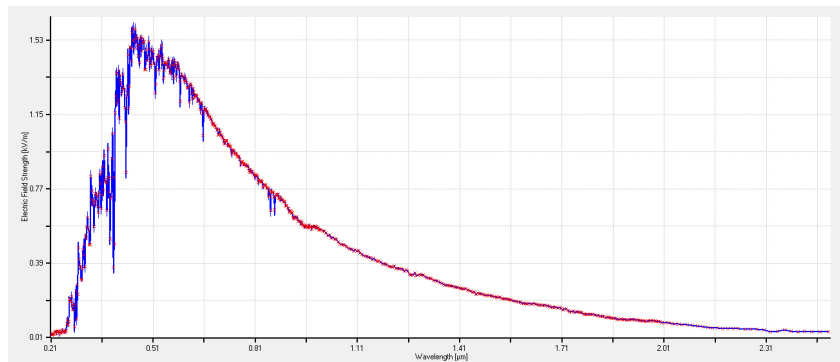
### Abstract

This application scenario shows the simulation of a light source whose spectral composition is equal to that of the sun.

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**Keywords:** Light Source, Spectrum, Sun  
**Requirements:** VirtualLab™ version 4.5.0 or higher – **Starter Toolbox**  
**Version:** 1.0  
**Files:** Corresponding files can be found [here](#).

### Modeling Task

A Super Gaussian Wave light source has to be modeled and simulated, using a measured spectrum of the sun as shown in Fig. 1.



*Figure 1. Data of the extraterrestrial sun spectrum.*

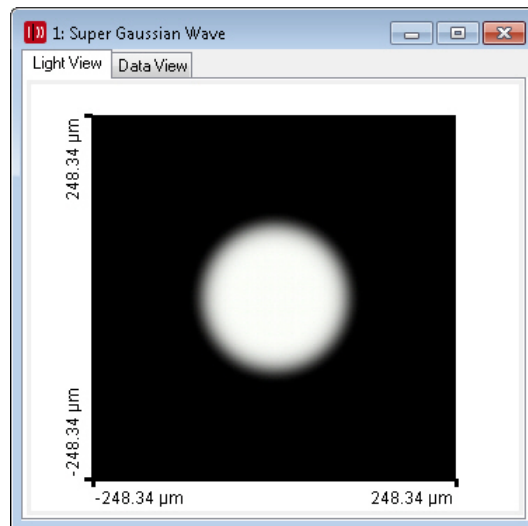
### Solution with VirtualLab™

Any spectrum can be read from text files directly into the edit dialog of the light source, if given in the correct format (columns can be separated by an arbitrary number of spaces):

# Wavelength in m	Squared Amplitude in $V^2/m^2$
5.1E-07	1.1
5.5E-07	4.0
5.8E-07	2.3

## Results

If the data of the given sample file are loaded into the edit dialog of a Super Gaussian light source, specified as referring to *Intensity* when asked, the result's light view should look like shown in Fig. 2.



*Figure 2. View of the Sun light source.*

## Technical Support

If you have any questions, remarks or problems concerning this application scenario, or in using VirtualLab™ in general, please do not hesitate to contact us by E-Mail [support@lighttrans.com](mailto:support@lighttrans.com).

Please use the update service to install the current version of VirtualLab™. Alternatively you can use the latest **Trial Version** of VirtualLab™ which is available at our [download site](#). If you have been registered already for an older trial version, just contact us by [E-Mail](#).

To ensure that this application scenario gives the same results as described, set the global settings to the default values. In VirtualLab™ this can be done in the **Extras > Global Options** dialog with the **Reset All** button.