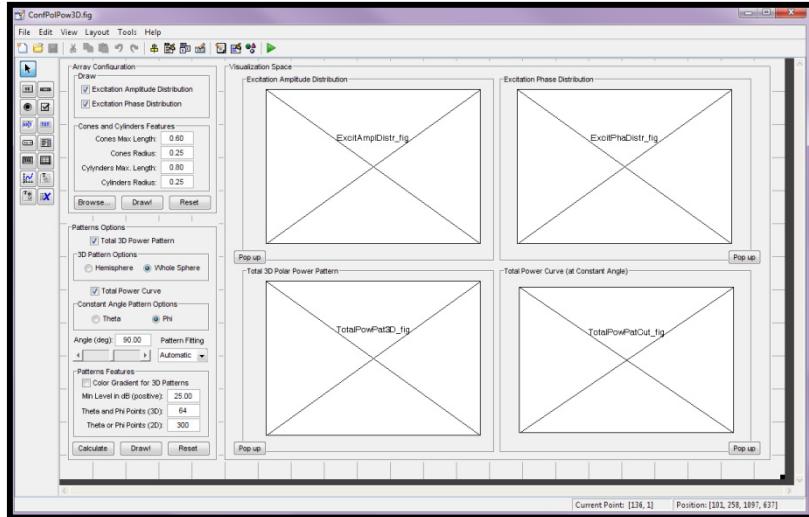


After having located the corresponding directory of the file, then in MATLAB prompt line write

```
>> guide ConfPolPow3d
```

This will make the MATLAB GUI editor to appear:



Now click on the play button to run the program. After that, click on Browse... and select one of the .dat files. Those text files have the following format:

```
X TAB Y TAB Z TAB Amp TAB PhaDeg TAB Axn TAB Bxn TAB Gxn TAB Ayn TAB Byn TAB Gyn TAB KElem\n
```

[X, Y, Z]: components of the position vector of the n-th element local coordinate system origin, expressed in  $\lambda$ -units,

Amp : relative amplitude

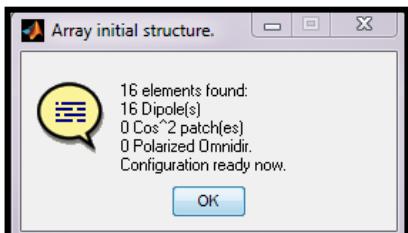
Pha: relative phase (in degrees)

[Axn, Bxn, Gxn] and [Ayn, Byn, Gyn]: direction angles  $[\alpha_{xn} \beta_{xn} \gamma_{xn}]$  and  $[\alpha_{yn} \beta_{yn} \gamma_{yn}]$ , respectively (degrees)

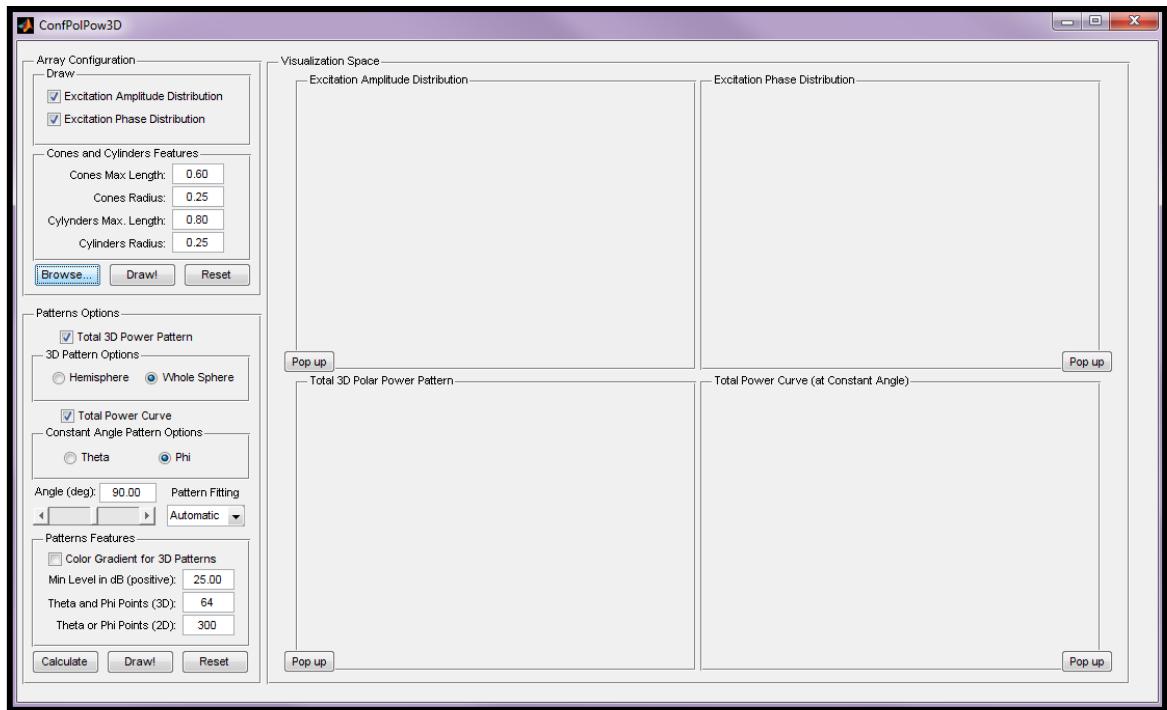
KElem: variable (integer) that allows the program to identify the vector field function that the program will use for that specific element (see PolElemF function in ConfPolPow3D.m source code).

TAB and \n indicate tabulation and new-line characters, respectively. For the program to correctly establish –by means of the NElem = size(X, 1) – the total number of elements N of the array, the line break should be omitted in the last row of the file.

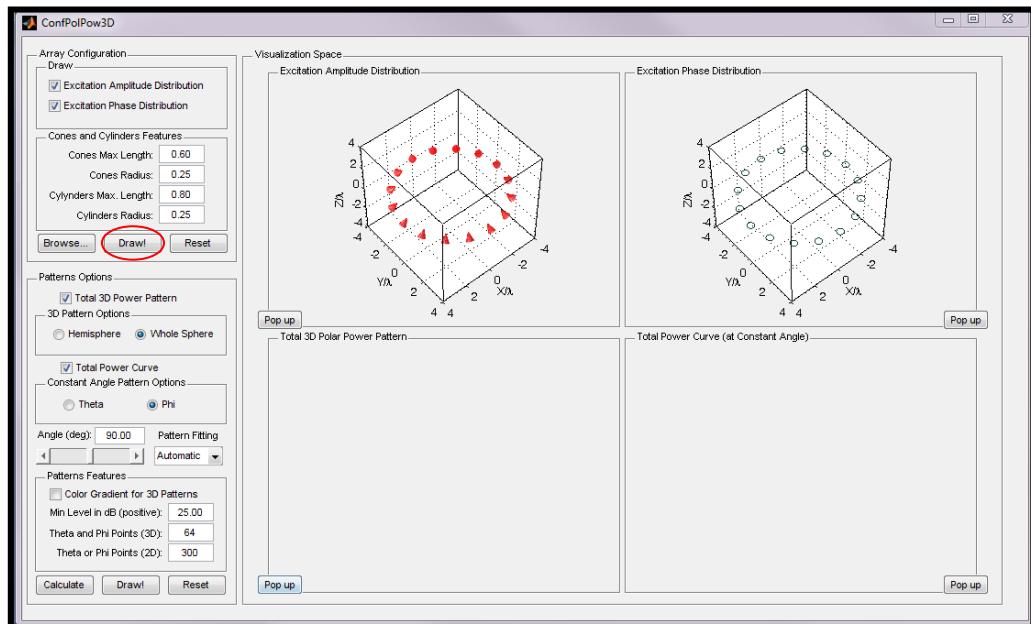
After having loaded the configuration, the program will show you a small window listing the elements of the conformal array, something like this:



Then, after clicking OK, the GUI interface will appear, and will be empty:

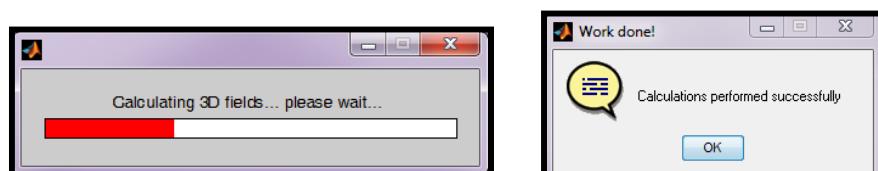


When clicking on “Draw!” button (within “Array Configuration” panel) the program will show the array Amplitude and Phase distributions (the parameters “Cones Max Length”, “Cones Radius”, etcetera, are given to specify the sizes of cones and cylinders.):

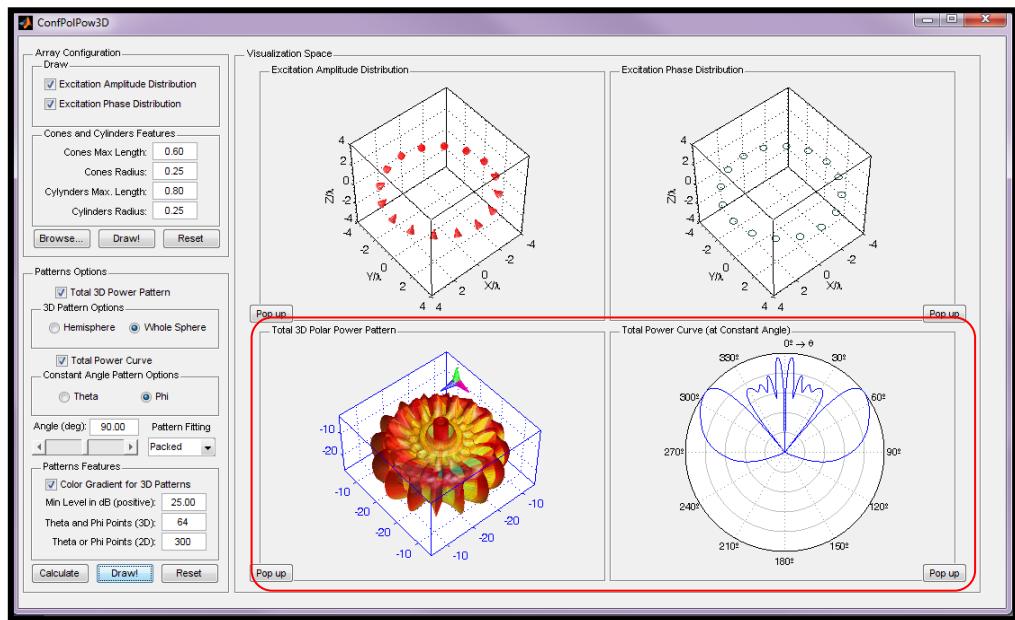


Clicking on any of the Pop up buttons will show separate figures of the array configuration.

To draw the patterns, the user must previously select the desired configuration (“Pattern Options” panel), and then click on “Calculate”. The program will show 2 progress bars, one when calculating the 3D patterns, and one when calculating the 2D ones. A window informing that the calculation was done will finally be given:



After having performed the calculation, a click on “Draw!” button from “Pattern Options” panel will make the power patterns to appear:



A click on any of the Pop up buttons will plot the field components (total, theta and phi) in separate figures.