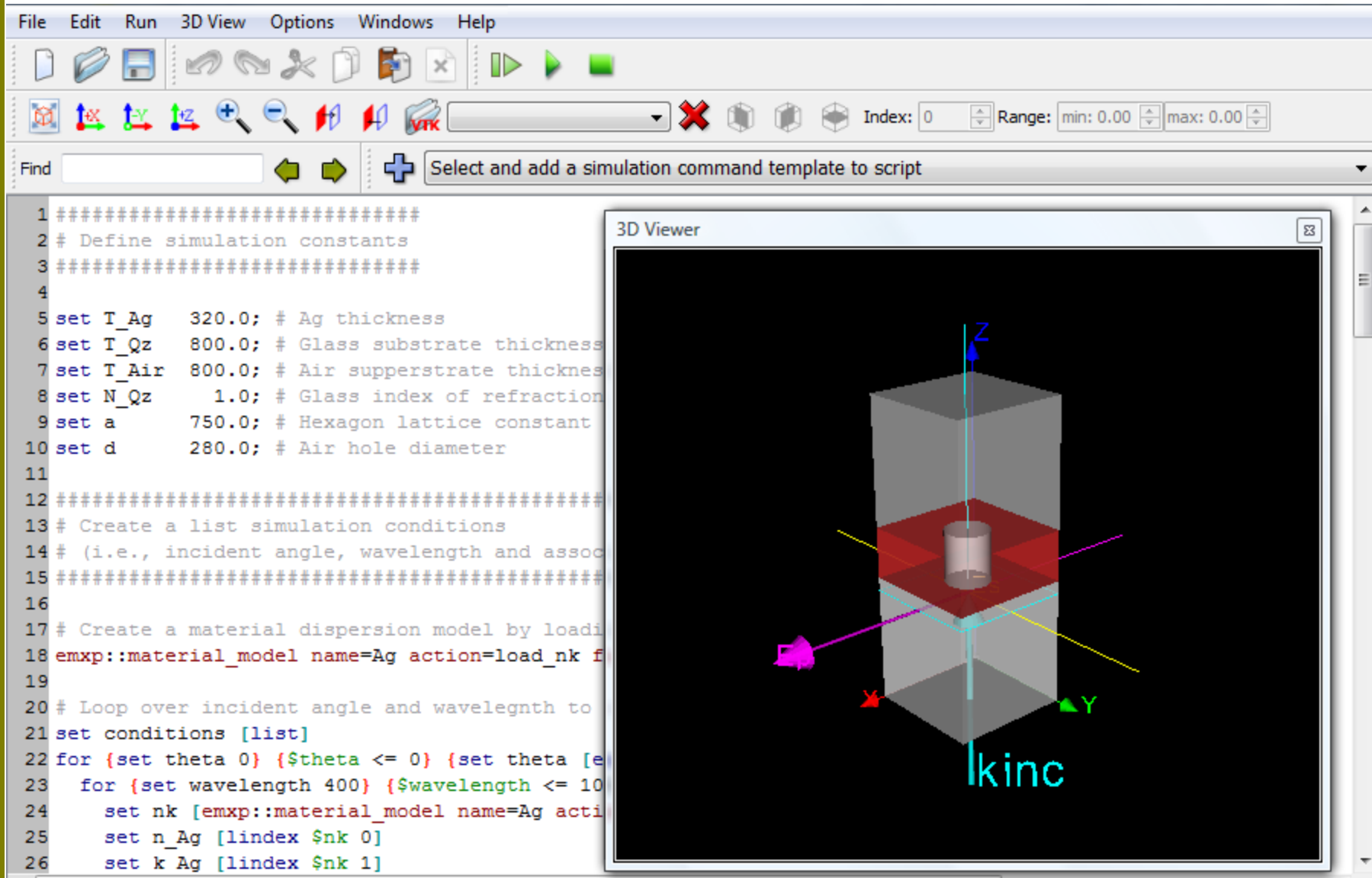


Extraordinary Optical Transmission through Sub-wavelength Hole Arrays

Simulation Setup

(Based on L. Martín-Moreno et al., Physical Review Letters, Vol. 86, No. 6, 5-Feb-2001)



The screenshot displays the EM Explorer software interface. The main window shows a script for defining simulation constants and conditions. The 3D Viewer window shows a 3D model of a hexagonal lattice structure with a central cylinder, overlaid on a glass substrate and an air superstrate. The 3D viewer includes a coordinate system with X, Y, and Z axes and a label 'kinc'.

```
1 #####
2 # Define simulation constants
3 #####
4
5 set T_Ag 320.0; # Ag thickness
6 set T_Qz 800.0; # Glass substrate thickness
7 set T_Air 800.0; # Air superstrate thickness
8 set N_Qz 1.0; # Glass index of refraction
9 set a 750.0; # Hexagon lattice constant
10 set d 280.0; # Air hole diameter
11
12 #####
13 # Create a list simulation conditions
14 # (i.e., incident angle, wavelength and assoc
15 #####
16
17 # Create a material dispersion model by loadi
18 emxp::material_model name=Ag action=load_nk f
19
20 # Loop over incident angle and wavelegnth to
21 set conditions [list]
22 for {set theta 0} {$theta <= 0} {set theta [e
23   for {set wavelength 400} {$wavelength <= 10
24     set nk [emxp::material_model name=Ag acti
25     set n_Ag [lindex $nk 0]
26     set k_Ag [lindex $nk 1]
```

Results

R0: 0-order reflection, T0: 0-order transmission, R: total reflection, T: total transmission

