

Nanoscribe Design Agent Report

Project: generate_5x5_array_20251217_131310

Generated: 2025-12-17 13:13:30

User Prompt

generate a 5x5 array of cylinders all of height 5, the radius should be 1 for each, the spacing center to center is 5

Design Intent

The user's design goal is to create a symmetrical 5x5 array of cylinders, each with a uniform height of 5 and a radius of 1, ensuring that the center-to-center spacing between each cylinder is consistently set at 5 units. This arrangement emphasizes geometric regularity and mechanical intent, likely for aesthetic or functional purposes in a spatial layout.

Geometry Specification

```
{
  "array": {
    "rows": 5,
    "cols": 5,
    "spacing_um": 5.0
  },
  "meta_atoms": [
    {
      "id": 1,
      "shape": "cylinder",
      "height_um": 5.0,
      "radius_um": 1.0
    }
  ],
  "pattern_map": [
    [
      1,
      1,
      1,
      1,
      1
    ],
    [
      1,
      1,
      1,
      1,
      1
    ]
  ]
}
```

```

    [
      1,
      1,
      1,
      1,
      1
    ],
    [
      1,
      1,
      1,
      1,
      1
    ],
    [
      1,
      1,
      1,
      1,
      1
    ]
  ]
}

```

Generated Meta-Atoms

ID	Shape	Properties
1	cylinder	height_um=5.0, radius_um=1.0

GWL Files Generated

```

meta_1.gwl
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Unique Meta-Atom (Cylinder)
% Objective: 63x
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
var $objective = 63
local $height = 5.0
local $radius = 1.0
local $voxel_lateral = 0.1
local $axial_step = 0.3
local $axial_overlap = 0.5
local $dz = $axial_step * (1 - $axial_overlap)
local $slices = ceil($height / $dz)
local $hatch = $voxel_lateral

XOffset 0
YOffset 0
ZOffset 0
PowerScaling 0.
...

```

```

main_array.gwl
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
% Array of Cylinders
% Objective: 63x
% Each cylinder: height 5  $\mu\text{m}$ , radius 1  $\mu\text{m}$ 
% Center-to-center spacing: 5  $\mu\text{m}$ 

```

```
%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%%
var $objective = 63
XOffset 0
YOffset 0
ZOffset 0
PowerScaling 0.6
LaserPower 40
ScanSpeed 100
FindInterfaceAt 0.5
LineNumber 1
local $rows = 5
local $cols = 5
local $pitch = 5.0
local $xstart = -($pitch * ($cols - 1) / 2.0)
local
...
```

Run Statistics

Metric	Value
Total Runtime	20.00 seconds
Input Tokens	17452
Output Tokens	833
Total Tokens	18285
Meta-Atoms Generated	1
GWL Files Created	2