

# Sierpinski Carpet model in Polaris

[https://en.wikipedia.org/wiki/Sierpinski\\_carpet](https://en.wikipedia.org/wiki/Sierpinski_carpet)

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- Simple Polaris model of a 4-iteration of the fractal pattern.
- This model displays Polaris's ...
  - ease-of-use (24 lines!)
  - SQR option
  - You can generate any pixel-map like geometry
- It runs:
  - $k\text{-eff} = 1.36284$
  - ~400 seconds

```
1=polaris
2  sys PWR
3  lib 'broad_lwr'
4  geom sierpinski : ASSM 27 1.0
5  comp c_uox : UOX 3.0
6  mat FUEL.1 : c_uox 10.2
7  pin A : 0.5 : FUEL : SQR
8  pin B : 0.167 : FUEL : SQR
9  pinmap
10 A
11 A A
12 A A A
13 A A A A
14 A A A A A
15 B B B B B B
16 A B B A B B A
17 B B B B B B B
18 A A B B B B B A
19 A A B A B B A B A A
20 A A B B B B B A A A
21 B B B B B B B B B B
22 A B B A B B A B B A
23 B B B B B B B B B B
24 end
```

