

Nanophotonic Modeling

Lecture 3.10: MEEP: Index Guided Waveguides

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Run Functions

- Run-until
- Run-sources
- Run-sources+
- Stop-when-fields-decayed
- (run-k-point T k)

Selected Step functions

- Output-epsilon
- Output-efield-z
- Output-tot-pwr
- (output-png component h5topng-options)

Example: Index-Guided Waveguide

```
(set! geometry-lattice (make lattice (size 16 8 no-size)))
```

```
(set! geometry (list (make block (center 0 0) (size infinity 1 infinity) (material (make dielectric (epsilon 12))))))
```

```
(set! sources (list (make source (src (make continuous-src (frequency 0.15))) (component Ez) (center -7 0))))
```

```
(set! pml-layers (list (make pml (thickness 1.0))))
```

```
(set! resolution 10)
```

```
(run-until 200 (at-beginning output-epsilon) (at-end output-efield-z))
```

Example: Index-Guided Waveguide

- Dielectric function is as expected:



- E_z field propagates nicely along waveguide as expected:

