Tidy3D

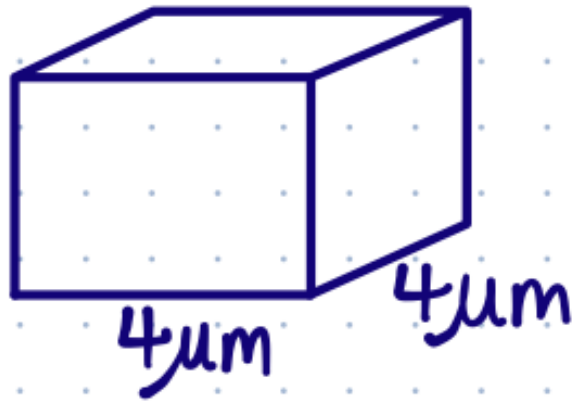
Structure

FIRST WALKTHROUGH

PLANE WAVE ON DIELECTRIC SLAB WITH TRIANGULAR PILLAR.

PML EXTENDS OUTSIDE USER-DEFINED DOMAIN.

SIM_SIZE = [4, 4, 4]



Runtime

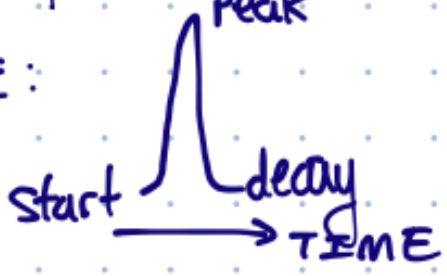
DEPENDS ON

① LONG-LIVED RESONANCES

② BANDWIDTH

$\Delta t \Delta f \sim 1$

PULSE:



$\text{PULSE WIDTH} \sim \frac{1}{\text{Bandwidth}}$

$\text{Runtime} = \frac{n}{\text{width}} \quad \forall\, n \in \mathbb{Z}^+$

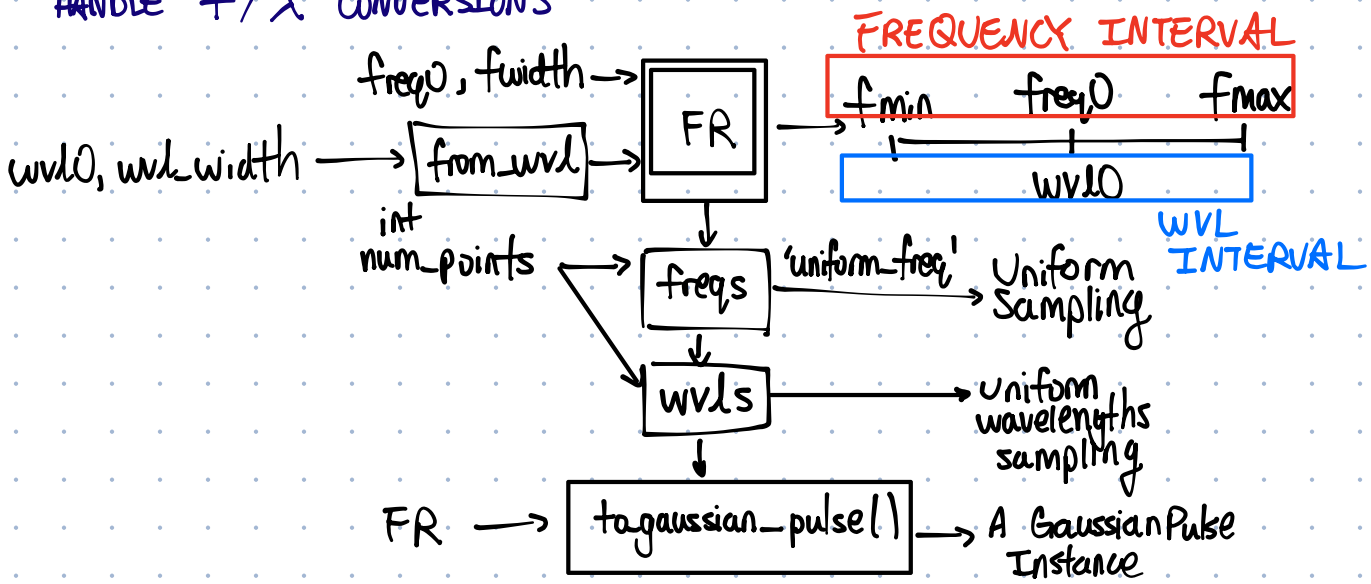
$n = 2, 3, 4, \ldots$

GOAL: JUST ENOUGH TO CAPTURE TAIL

FreqRange

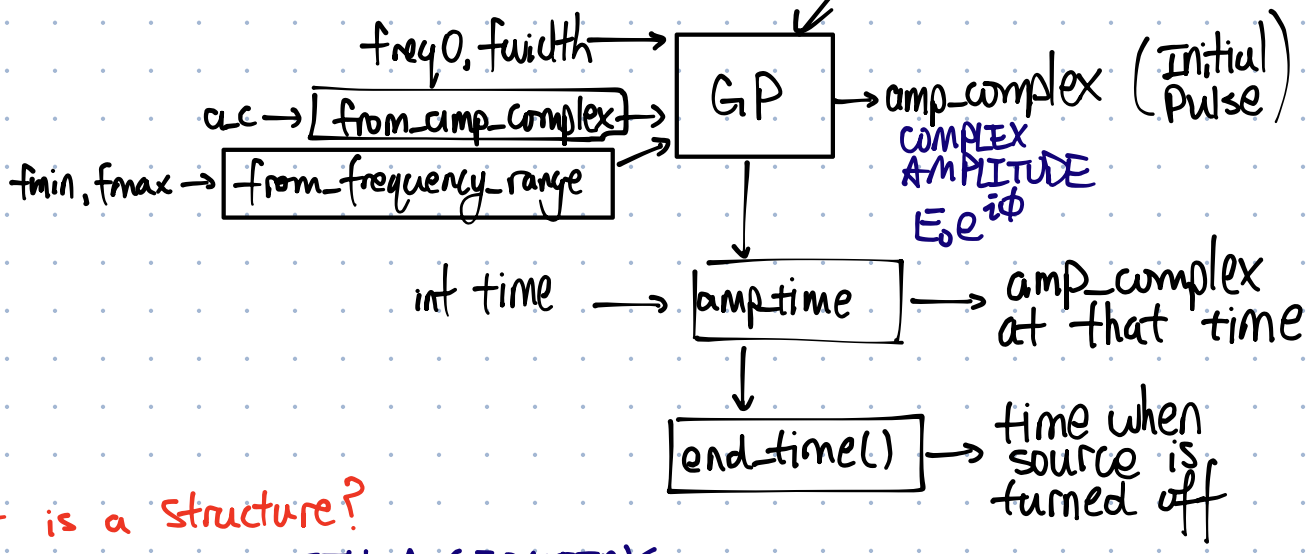
CONVENIENCE CLASS

HANDLE f/λ CONVERSIONS



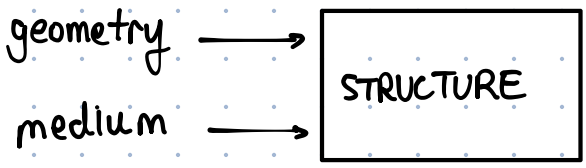
What is GaussianPulse?

SOURCE TIME DEPENDENCE



What is a Structure?

A MEDIUM WITH A GEOMETRY



IF STRUCTURE SIZE > DOMAIN SIZE,
AUTOMATIC TRUNCATION.

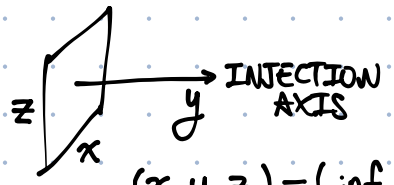
USE td.inf (infinite) WHEN EXTENDING TO SIMULATION EDGES / ABSORBING BOUNDARIES.

what is a Plane Wave Source?

AngledFieldSource PlanarSource BroadbandSource

PlaneWave

UNIFORM CURRENT
INFINITE PLANE
ONE SIZE MUST BE 0.



$(x, y, z) = (inf, 0, inf)$
size