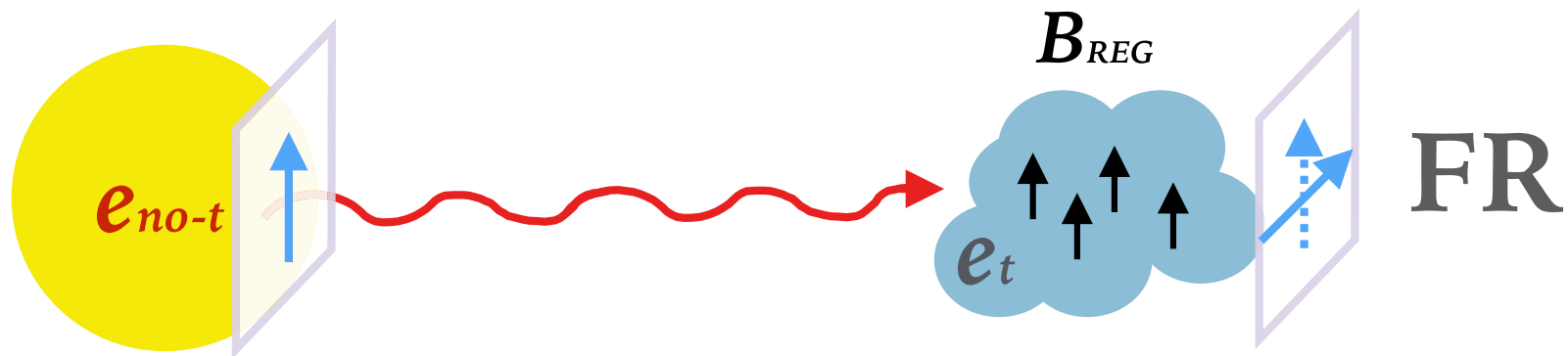


# Rotation Measure data products

- What is “RM”?
  - Rotation measure (RM) describes the rotation of the plane of polarization of linearly polarized light/radio waves (Faraday rotation).
    - $\Delta\phi = \text{RM} \cdot \lambda^2$
    - For EM waves passing through a magnetized plasma, RM is proportional to the electron density times the line-of-sight component of the magnetic field.
  - Fourier-like relationship between intensity as a function of  $\lambda^2$  and intensity as a function of RM.



# What data products can we expect?

- Many radio telescopes are involved in surveys that plan to produce RM products (VLA, ASKAP, MeerKAT...)
- Individual users may also want to ingest their products into archives via e.g. NRAO's SRDP program.
- Likely data products:
  - Catalogs – fields like `rm`, `rm_err`, `rm_width` etc (Cameron van Eck: <https://github.com/Cameron-Van-Eck/RMTable>)
  - 1-D “spectra” (Amplitude as a function of RM for a single source/position on the sky.)
  - 3-D cubes (Amplitude as a function of RM for a region of sky.)
- CADC working with some of these groups already.