1 Questions for professor Sundqvist

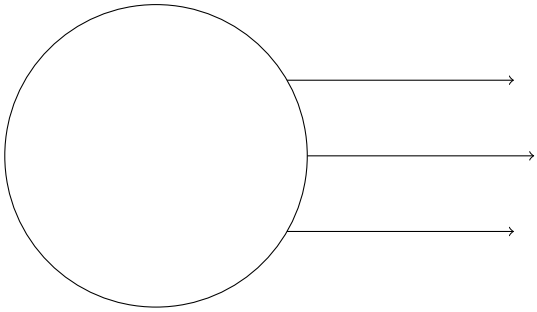
- What are the equations governing the processes in `pcyg.f90`
- ordening of array `freq`
- why `freq(1) = xmax-5*deltax`?

2 Questions for professor Samaey

- In [**Dimarco2018**], Equation (31) why does it correspond to diffusion (more specifically the second term on the right hand side).
- what is the difference between Monte Carlo and equation-free computing?

3 Solved questions

- Sundqvist+ 2009: what is thermal velocity (see Wikipedia)
- Sundqvist+ 2009: what is line force (see explanation Dylan)
- unclassified: what is a flux limiter? (see course notes)
- unclassified: what is cross section of scattering (see Wikipedia)
- Puls manual: p.26: how does the Milne equation appear? (see library book)
- pcyg.f90: what are p-rays? (see anwser professor Sundqvist)
  - parallel rays leaving the atmosphere (of, e.g. a star)



- pcyg.f90: what is meant by Eddington limb-darkening? (see answer professor Sundqvist)
  - standard limb darkening
- Sundqvist+ 2009: what is the geometry of a *slice*?
- CMFAA course notes p.13 (the example) what is understood by plane-parallel geometry and is it 1D or 2D? (see answer professor Sundqvist)
  -
- CMFAA course notes p.15: why is this called diffusion $F = T^3 \frac{dT}{dx}$ (flux proportional to local gradient in temperature)?
- unclassified: what is the terminal velocity v_∞?
- unclassified: what is Sobo-distribution? (Sobolev distribution)
- pcyg.f90: for `test_number` = 2, why do we call it isotropic since isotropy of `mu` does not imply isotropy of `theta`? (myself, see definition of intensity)
- (for which star are the exerpimental data and what assumptions are used in the theory?) (see ... and derive some formulas)
- book *Stellar Atmospheres* [Mihalas] (bought)

4 Interesting problems

- inverse radiative transfer problem