September 6, 2019 1

1 Questions for professor Sundqvist

• pcyg.f90: for test_number = 2, why do we call it isotropic since isotropy of mu does not imply isotropy of theta?

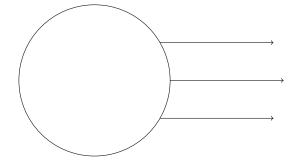
${f 2}$ Questions for professor Samaey

• what is the difference between Monte Carlo and equation-free computing?

September 6, 2019 3

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?

4 4 Interesting problems

• inverse radiative transfer problem