



Computational light scattering (PAP315)

Lecture 11b

Antti Penttilä

Department of Physics, University of Helsinki, Finland

What you need for installing and running RT-CB



- Linux/Mac/Windows+MSYS2 with GCC gfortran compiler
- GNU make tool



- Go to https://bitbucket.org/planetarysystemresearch/rtcb_public/
- Get package by downloading the zip from the page
 - `wget https://bitbucket.org/planetarysystemresearch/rtcb_public/get/505cd74e7a3f.zip`
 - `unzip 505cd74e7a3f.zip`
 - `mv planetarysystemresearch-rtcb_public-505cd74e7a3f/ rt-cb`
- Or with Git:
 - `git clone https://bitbucket.org/planetarysystemresearch/rtcb_public.git`
- Go to package root and compile with make:
 - `make sphere`
 - `make plane`



- All parameters are given in input file, and the input file name will be given as option in the command line.
- But, first option to RT-CB needs to be the number of cores to be used (for OpenMP parallel execution”
 - `./rtcbPlane 2 input.inp`
- See doc.pdf for list of command-line parameters

Example parameters for semi-infinite plane slab with Rayleigh-scatterers:

```
wavelength=0.55
single_scattering_albedo=0.99
mean_free_path=20.0
medium_thickness_or_radius=100.0
number_of_rays=200
theta_angle_of_incidence=180.0
scatterer_type=rayleigh
details_output=rayleigh_plane_details.out
rt_solution=rayleigh_plane_rt.out
cb_solution=rayleigh_plane_cb.out
```