

SOKENDAI lecture, [Basic Seminar IIA], 10:30-12:00 on Friday
Lecturer: Akimasa Kataoka (Division of Theoretical Astronomy)

The purpose of this lecture

- Through reading a book on some basic astrophysics,
 - understand the physics written in the book.
 - as a presenter, don't just tell what was written. Understand the physics in the book, consider what the other students would know, and tell the physics with your own way.
 - as a listener, understand what the presenter is telling, and encourage discussion by pointing out any questions.

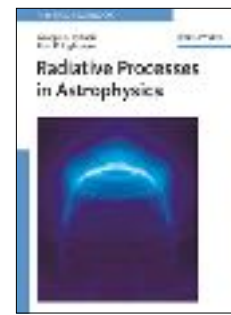
Evaluation

- Look at the webpage of SOKENDAI lectures in astronomy.

Book

Examples:

- The Physics of Fluids and Plasmas: An Introduction for Astrophysicists / Arnab Rai Choudhuri
 - Radiative Processes in Astrophysics / Rybicki and Lightman
- * We can change the book to read at any time in the semester. I also appreciate any feedback on this lecture at anytime. Just email to me.



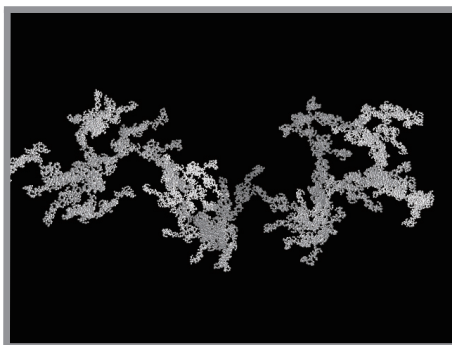
Caution (or, I'm just asking you)

The attendance would be around a few to several students – very small number of people. Please tell me when you won't attend a lecture due to conference trip, sick, or even oversleeping. It will help me a lot.

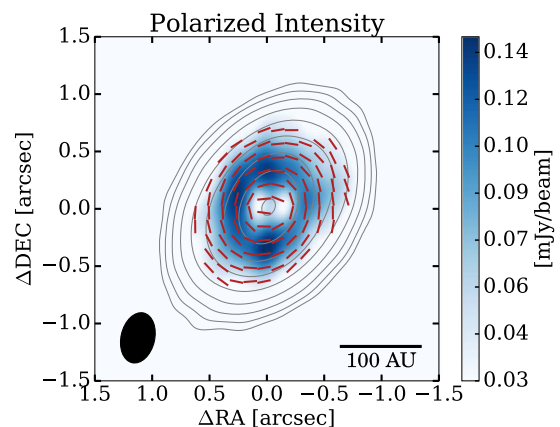
Who am I?

I'm Akimasa Kataoka, working on planet formation by using numerical simulations of dust coagulation (left figure) and polarimetric observations of protoplanetary disks with ALMA (right). My office is C4-309 (中央棟南309号室). Email: akimasa.kataoka@nao.ac.jp

$t=0$ ($\phi=0.0003$)



Kataoka et al., 2013, A&A, 554, A4



Kataoka et al., 2017, ApJL, 844, L5

One additional rule of this lecture

I encourage the students to spend your time fully with English during the lecture. Please do not speak other than English even between students (neither Japanese nor Chinese, for example). But sometimes your own language helps a lot to understand basic physics. In that case, please rephrase the same sentences in English after you speak in your own language. This is a ground rule on this lecture.

Today (Sep. 28th)

- I'll explain this lecture by following what is written on the other side.
- Self-introduction of students.
 - What are you working on? What have you studied in astrophysics?
- Chose a book to read.
- Decide who will be the presenter in the next lecture.
- Question: can you do these things? If yes, just ignore
 - Search and find a journal paper using ADS, and download it.
 - Visualize data with some drawing software (e.g., gnuplot, IDL, matplotlib...)

Quiz

- Make a density plot with a snapshot data.
 - Download the files from here:
<http://th.nao.ac.jp/MEMBER/kataoka/data/2018lecture2/>
- [optional] Make a movie by following the instruction on the web page
- [optional] What instability is this?