



Protostars and Planets

Lecturers



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First things first

Course information

Logistics: kleiner Hörsaal
Philosophenweg 12
every **Tuesday** at **9:15 AM**

All info can be found at

http://www.mpia.de/homes/beuther/lecture_ws2324.html

First things first

Course information

lsf.uni-heidelberg.de



UNIVERSITÄT
HEIDELBERG
ZUKUNFT
SEIT 1386

LSF: Lehre, Studium und Forschung Informationssystem der Universität Heidelberg

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Sie sind hier:

Protosterne und Planeten

Die Veranstaltung wurde 1 Mal im VVZ WiSe 2023/24 gefunden:

Vorlesungsverzeichnis
Fakultät für Physik und Astronomie
Master of Science Physics [M]
Core Courses [MW] [1.]

Grunddaten

Semester	WiSe 2023/24
Veranstaltungskürzel	MVSEM
SWS	2
Erwartete Teilnehmer/-innen	
Hyperlink	http://www.mpia.de/homes/beuther/lecture_ws2324.html

First things first

Course information

Credit points (6 CPs):

4 CPs for giving a 45' **presentation** + attending the seminar

2 CPs for writing **report** (due by end of February - exact date tbd)

All info can be found at

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First things first

Course information - how is the course structured?

Each week one of you will give a seminar.

At the end of each seminar we will **all** discuss the scientific topic and also provide feedback to the seminarist on the presentation.

First things first

Course information

Seminar length: ~ 45 minutes


Based on selected topic (recommended review paper & other literature selected by the seminarist)

Important!

To do prior to the seminar:

Make sure to meet (at least 1 time) with Henrik/Giulia at MPIA to discuss science topic/slides (have your slides ready by then!).

Questions?



Protostars and Planets VII

Kyoto, Apr 10-15, 2023

29 chapters

788 participants





Protostars and Planets VI

Heidelberg, 2016

First things first

Course information

Select 2 topics from below:

- Initial conditions for star formation: A physical description of the filamentary ISM ([link](#))
- The life and times of giant molecular clouds ([link](#))
- Magnetic fields in star formation: From clouds to cores ([link](#))
- From Bubbles and filaments to cores and disks: Gas gathering and growth of structure leading to the formation of solar systems ([link](#))
- The solar neighbourhood in the age of Gaia ([link](#))
- Accretion variability as a guide to stellar mass assembly ([link](#))
- Astrochemistry and compositions of planetary systems ([link](#))
- Setting the stage for planet formation: Measurements and implications of the fundamental disk properties ([link](#))
- Optical and near-infrared view of planet-forming disks and protoplanets ([link](#))
- Chemical habitability: Supply and retention of life's essential elements during planet formation ([link](#))
- The isotopic links from planet forming regions to the solar system ([link](#))

Send your preferences **TODAY** at: beuther@mpia.de

Short advice for
Giving a Scientific Presentation

A scientific presentation is...

... not just about **providing** information...
(wikipedia is for that)

... but about **making the audience absorb** information.

Your “time of fame”

A scientific presentation is...

Content

- + Important
- + Relevant to the audience
- + Simple(!)

Delivery

- + Engaging
- + Credible
- + Entertaining

Content: scientific presentation/paper

Introduction (what and why?)

Methods (how?)

Results (what comes out?)

Conclusions (what was learned?)

Content: this seminar

Introduction

Detailed review of the topic

Conclusions

Content: this seminar

Introduction

- What is the Big Picture?
- Why should the audience be interested?

Detailed review of the topic

Conclusions

Content: this seminar

Introduction

- What is the Big Picture?
- Why should the audience be interested?

Detailed review of the topic

- What is the State-of-the-Art of our knowledge?
- What are the specific science questions?
- What are the key methodologies to address them?
- What questions remain open?
- How can those questions be assessed in the future?

Conclusions

Content: this seminar

Introduction

- What is the Big Picture?
- Why should the audience be interested?

Detailed review of the topic

- What is the State-of-the-Art of our knowledge?
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- What are the key methodologies to address them?
- What questions remain open?
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Conclusions

- Take-home message (repetition!), max. 3 points!

Delivery:

Tell a story

Delivery:

Tell a story

Build contradictions
(science is full of them!)



Star formation rate of Milky-Way-like galaxies

Predicted:
 $\sim 300 M_{\text{sun}} / \text{yr}$

Measured:
 $\sim 2 M_{\text{sun}} / \text{yr}$

Delivery:

Tell a story

Build contradictions
(science is full of them!)

Build on figures, not words

Delivery: tips

Speak slowly and clearly

Avoid monotonous speech:

Emphasise, take breaks, ask questions, use humour.

Body-language:

Activate the audience, eye contact, posture, use of the stick/laser.

Delivery: technical tips

The length:

- + 1.5-2 min per slide
- + Too few is (much) better than too many

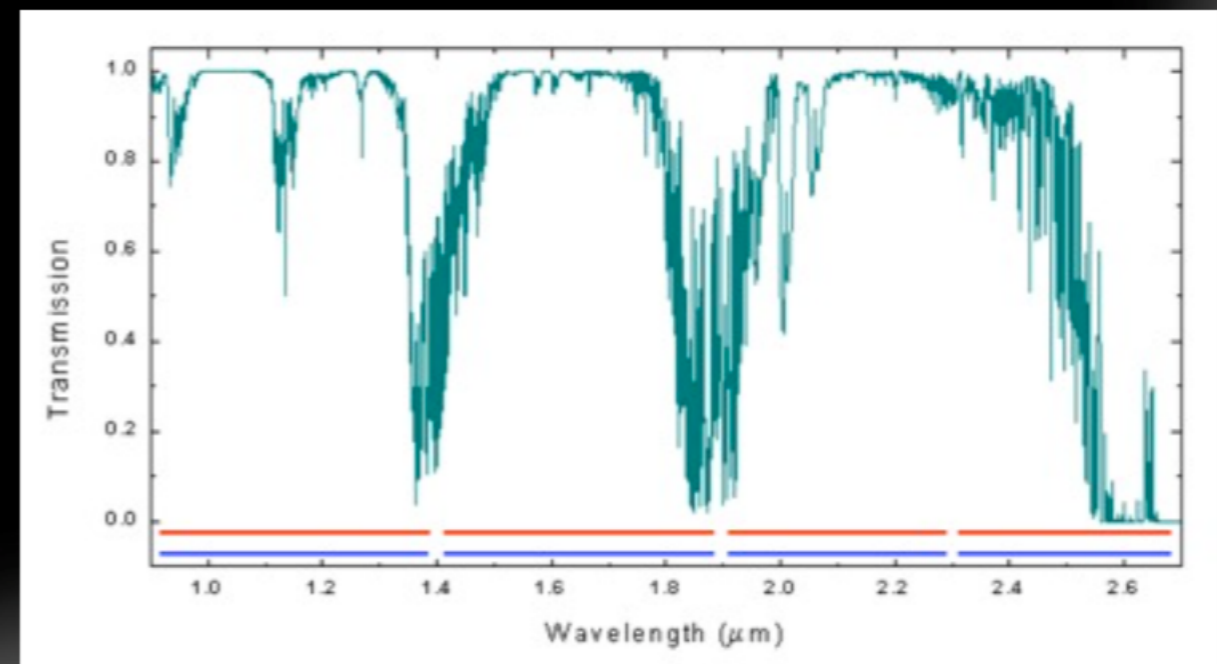
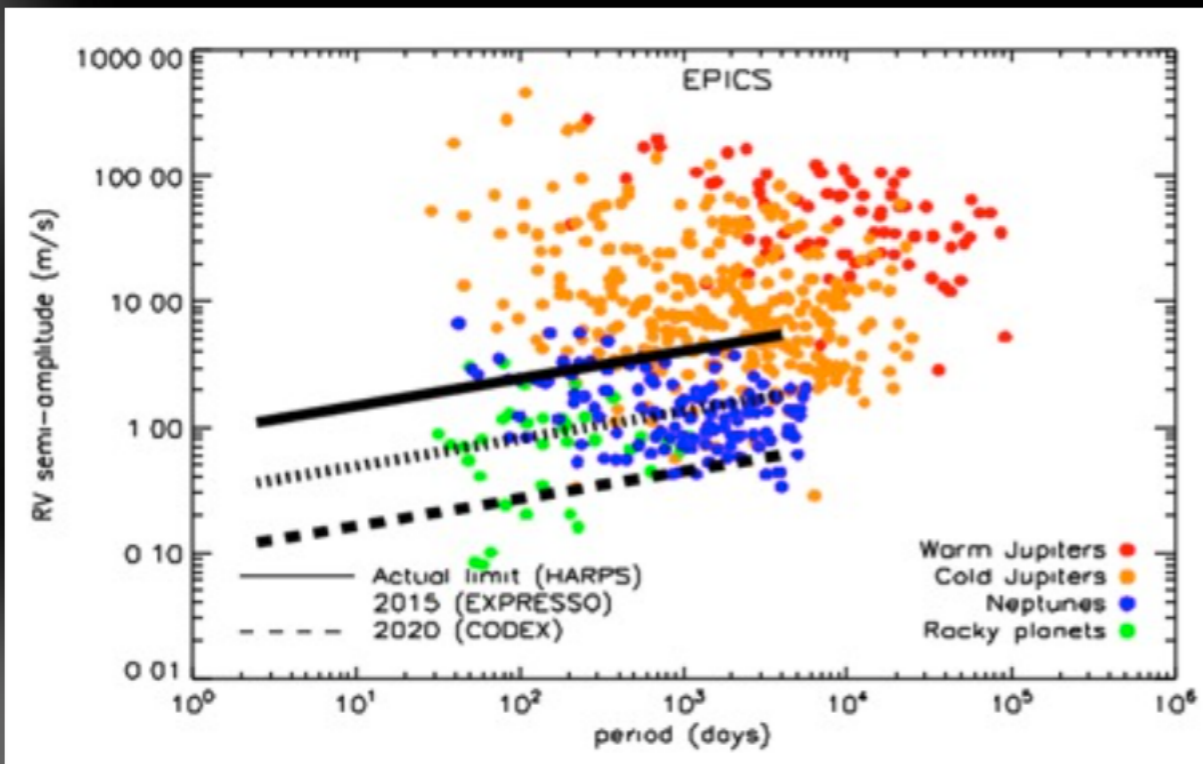
Slide design:

- + Simple slides
- + One topic/result per slide
- + No unessential information
- + Max ~5 bullet points
- + No mixed fonts, sizes, colours

Lorem Ipsum

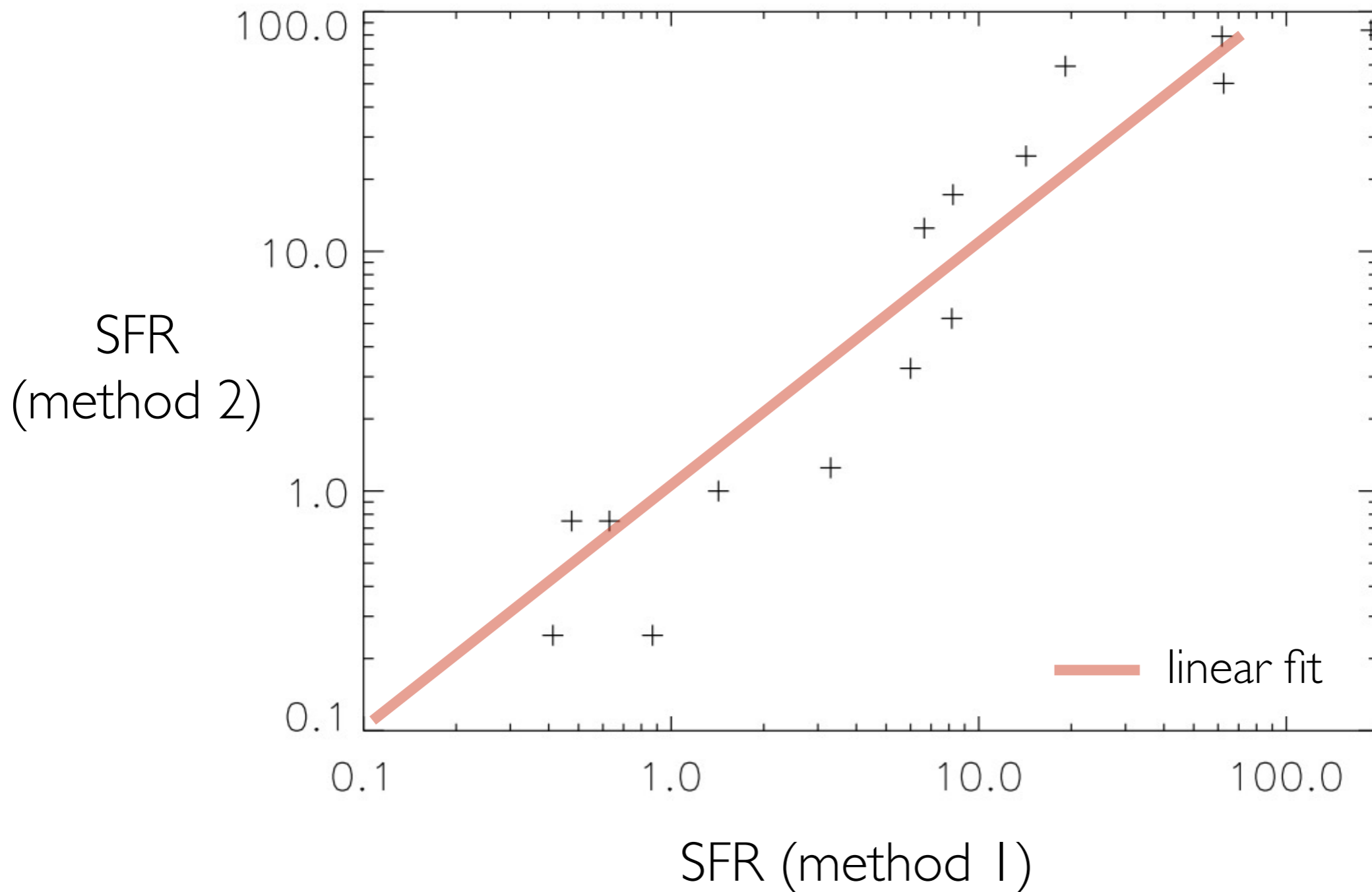
Courtesy: Tom Herbst/MPIA

- **Magnis aute volupti scimus dolupta tiusdam, ommodioris exceperepe vit autatem porio.**
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The main result:

star formation rates (SFR) derived with the two methods agree



Delivery: Technical tips

Practice:

- + Practice at least twice (feel confident).
- + Remain flexible; make time-marks and exit points.
- + Learn the first and last 3 sentences “by heart”.
- + Use presenter’s tools (but don’t rely on them).

In the end

When in doubt, **stick to these rules...**

... When not, **break them** to let your personality show.