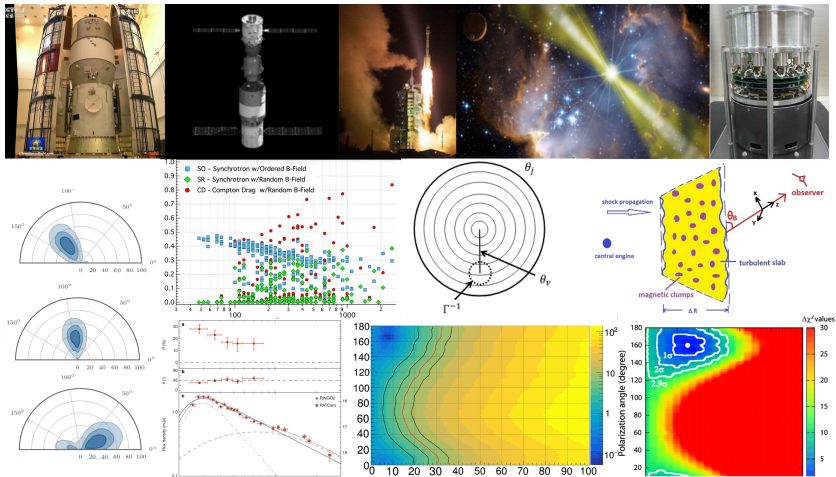


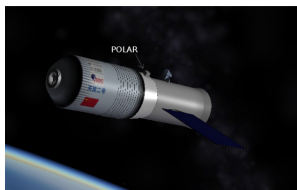
# Shedding new light on Gamma-Ray Bursts with polarization data

Merlin Kole



## Brief history of this workshop

- Original idea by Nicolas in 2016 for a workshop
- Goal was to collaborate with theory community in anticipation of the upcoming POLAR data
- ISSI reviewers said the proposal was great but we should wait for POLAR to be launched first...



Credit: South China Morning Po

## Brief history of this workshop

- Resubmitted to ISSI in 2017
- ISSI reviewers said the proposal was very poor...



## Brief history of this workshop



- Tried again with ISSI in 2018 with new improved proposal
- ISSI rejected us again using arguments applicable to the 2017 proposal
- Gave up on ISSI and tried with SNF
- Finally approved, just in time for the first upcoming POLAR paper
- New goal of the workshop: discuss emission models in light of recent measurements

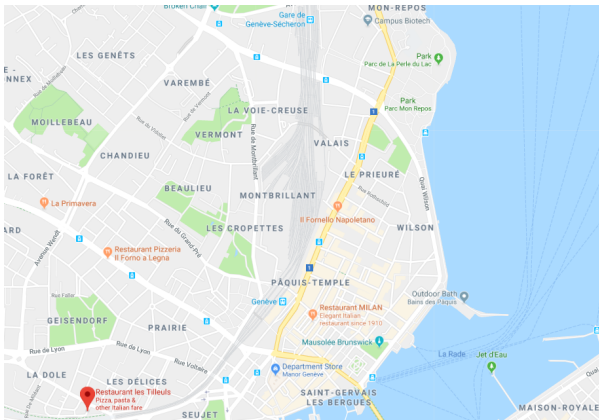


## Organizational Points

- Funding covers most of the people here
- Some people could join with their own funding, organization is slightly different but we tried to keep it as easy as possible
- Flights: Please send me the booking confirmation, payment confirmation and ideally the boarding passes as well
- Hotels: Please hand me your receipts after the workshop
- Hotels: We cover 140 CHF per night (only night during the workshop)
- Lunch: All funded people received vouchers for 4 lunches here at Biotech
- Dinners: Please keep the receipts for your dinners of Monday, Wednesday and Thursday
- Workshop dinner: Tomorrow at Restaurant Les Tilleuls at 19:30 paid for for everyone!
- Coffee breaks: kindly provided by Xin!

## Dinner Tuesday

- At restaurant Les Tilleuls
- 3 options for dinner
- All the food is covered by us for everyone



## Dinner Wednesday

- It's fondue season!
- Reservation at Bain de Paquis at 19:00
- Important: they only take cash!

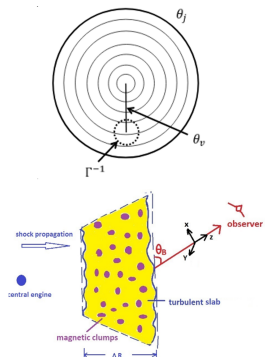


## Schedule Workshop

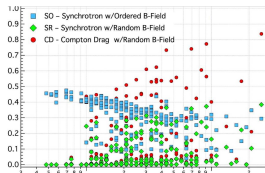
- Monday: Overview of all the recent measurements results
- Focus on clear non controversial results for prompt emission
- Overview of optical measurements

GRB	Instr./Sat.	Pol. (%)
xxxxxxxA	POLAR	?
160530A	COSI	< 46% (90% confidence)
110721A	GAP/IKAROS	$84^{+16}_{-28}$
110301A	GAP/IKAROS	$70 \pm 22$
100826A	GAP/IKAROS	$27 \pm 11$
021206	RHESSI	$80 \pm 20$
021206	RHESSI	$41^{+57}_{-44}$
140206A	IBIS/INTEGRAL	$\geq 28$ (90% confidence)
061122	IBIS/INTEGRAL	$\geq 33$ (90% confidence)
041219A	IBIS/INTEGRAL	$\leq 4/43 \pm 25$
041219A	SPI/INTEGRAL	$98 \pm 33$
960924	BATSE/CGRO	$\geq 50$
930131	BATSE/CGRO	$\geq 35$

# Schedule Workshop

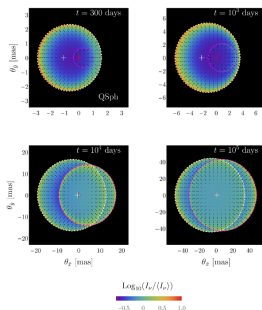
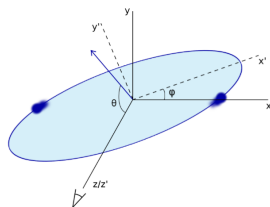


- Tuesday: Focus on theoretical models
- Presentations followed by a general discussion
- CERN tour in the morning



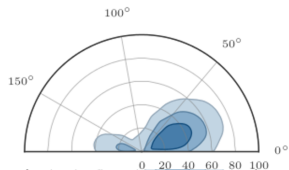
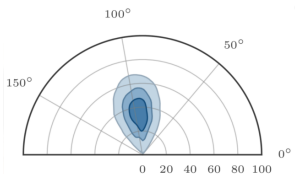
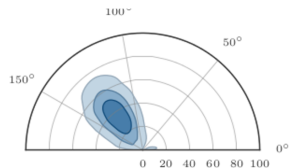
# Schedule Workshop

- Wednesday morning: focus on 170817A
- Overview of models and measurements and discussion how we can profit from GW measurements
- Afternoon: focus on the future
- Overview future instruments and discussion on what we need from them
- Discussions on what we need from theory side as well!
- Discussions can continue over cheese in the evening



## Schedule Workshop

- Thursday: continue focus on future data related projects
- There is now a significant amount of polarization data available
- How do we make it possible for everyone how is interested to perform some basic analysis?
- How can we get more out of the existing data?



## Schedule Workshop

- Friday: only a morning sessions
- Discus if/how we can colaborate in the future
- Can we write a new overview paper of the state of GRB polarization?