

Title: Conference Summary

Speakers:

Collection: Dark Matter, First Light

Date: February 28, 2024 - 4:00 PM

URL: <https://pirsa.org/24020085>

Dark Matter, First Light

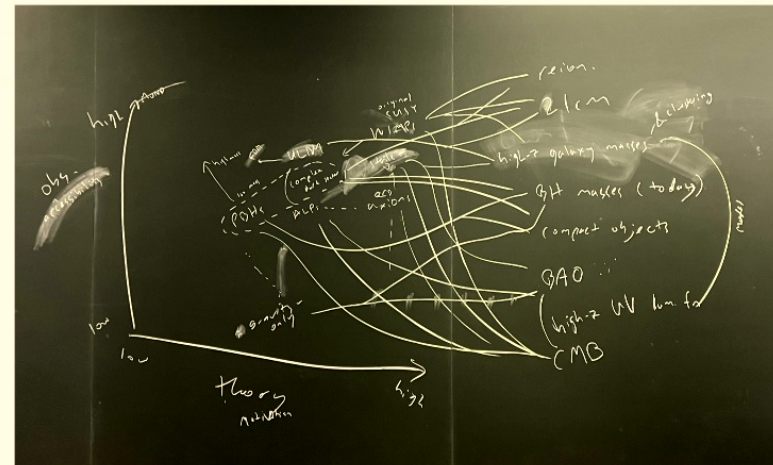
Conference Summary

Katie Mack (Perimeter)

Theory vs Obs

the spaghetti plot

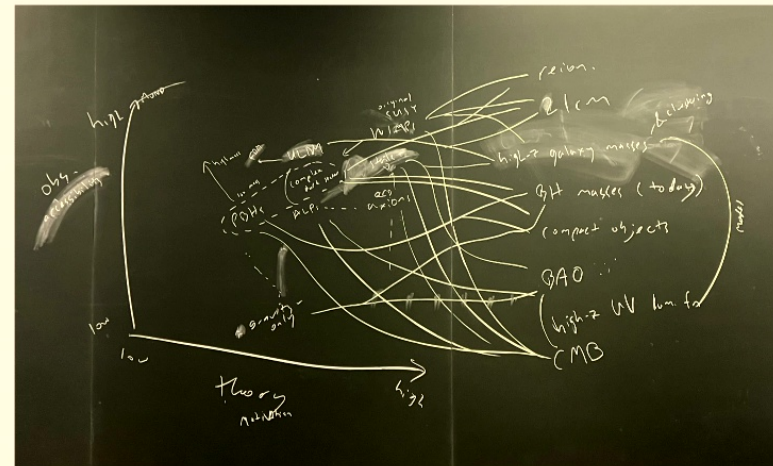
- Let them fight: placing models on the axes of observational accessibility vs theoretical motivation



Theory vs Obs

the spaghetti plot

- Let them fight: placing models on the axes of observational accessibility vs theoretical motivation
- Should we all be aiming for a “sweet spot” in this plane?
- How should we balance/diversify our efforts?



Astro vs Sims

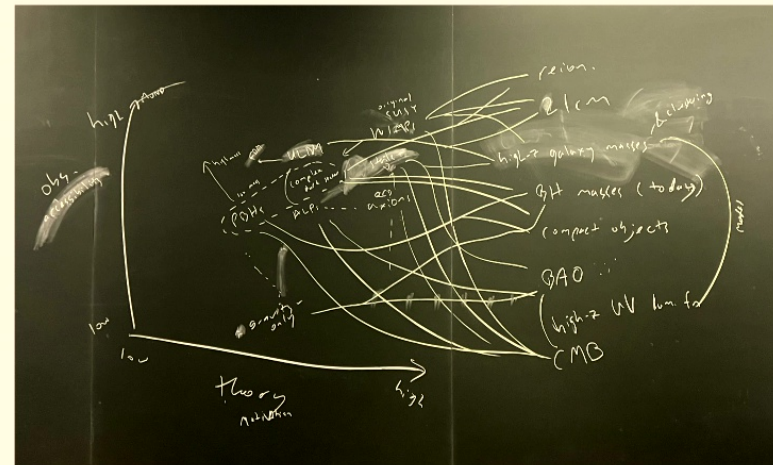
metals??

- What can we really observe?
- What do we really know?
- How can simulators/theorists work better and do consistency checks with observations?

- PT / subtle dynamics
- Axion strings / minihalos
- FOM / Ly α
- 21 cm
- N-body
- Hydro
- ADM
- SIDM/DDM
- Rad. transfer
- WDM
- Binary evol.

	GWs/BHs	early SMBHs	Pop III	high-z galaxies/ structure	21cm	backgrounds /indirect	LSS
atomic/ dissipative							
annihilation /decay							
hidden/ sequestered							
axion/ ULDM/FDM							
PBHs							
SIDM							
asymmetric							
5th force							
CDM/ agnostic							

Theory vs Obs



	GWs/BHs	early SMBHs	Pop III	high-z galaxies/ structure	21cm	backgrounds /indirect	LSS
atomic/ dissipative	Shandera / Kim / Diamond			Gemmell			
annihilation /decay		Vincent / Tanedo	Ilie		Qin / Hou / Sun	Taylor	
hidden/ sequestered				Lehmann		Ganjoo	
axion/ ULDM/FDM	Huang			Kannan / Rogers		Huang	
PBHs		Liu	Liu				
SIDM				Kannan		Alonso- Alvarez	
asymmetric						Rasovic	
5th force							Costa
CDM/ agnostic			Gurian	Muñoz			

What are we missing? people? ideas?

- More astronomy peeps: star people, 21cm people...
- Coupling tools/models at different scales
- Still limited by computation & uncertainties
- ...baryons? 🤔
- or we just get lucky 🍀



What's Next?

keep in touch

- Find people in your box or adjacent boxes: work with them!
- Find people in completely separate boxes: share ideas!
- Share your code!
- See you again soon 😊