

CMB-S4  
and  
Science Book  
Update

Kathy Turner (DOE Cosmic Frontier program manager) presentation at the February 25 meeting of the Astronomy and Astrophysics Advisory Committee (AAAC), a federal advisory panel advising DOE, NASA, and NSF, and at the February 26 meeting of the National Academy of Sciences Midterm Astronomy and Astrophysics Assessment Committee:

# Cosmic Frontier - R&D & Future planning

## → R&D towards P5 recommendations for the future:

Cosmic Frontier R&D – minimal funding expected for FY16, \$700K requested in FY17

## Dark Matter (P5 recommended a DM-G3 R&D program)

- HEP concentrating on getting the DM-G2 experiments successfully started
- R&D in the next few years will support off-project studies for the DM-G2's, technologies for DM-G3; but NOT for DM-G3 concept design!
  - DM-G1 experiments completing in FY16 can apply for R&D funds for focused technology studies for the future

## CMB-S4

- As recommended by P5, we are planning to participate in CMB-S4
- A small funding wedge in FY18 would put us in line with the P5 recommended project timeline
- Will work with NSF to develop possibilities

## → Future Planning

“Cosmic Visions” groups: CMB, Dark Energy, Dark Matter (direct detection)

- HEP meetings with small HEP community groups monthly; info helps us to develop, guide and coordinate HEP plans and funding, as well as provide info to community and their efforts.

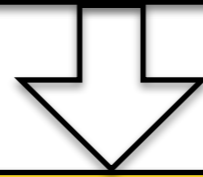


# Science Book

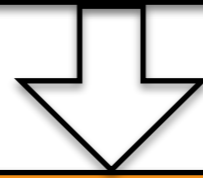
- There has been a lot of progress - many thanks to everyone, especially chapter draft writing teams.
- Volunteer contributors most welcome.
- Good start on the science case.

# Science Book: lots to do

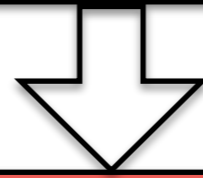
Complete the science cases



Map the science to measurements

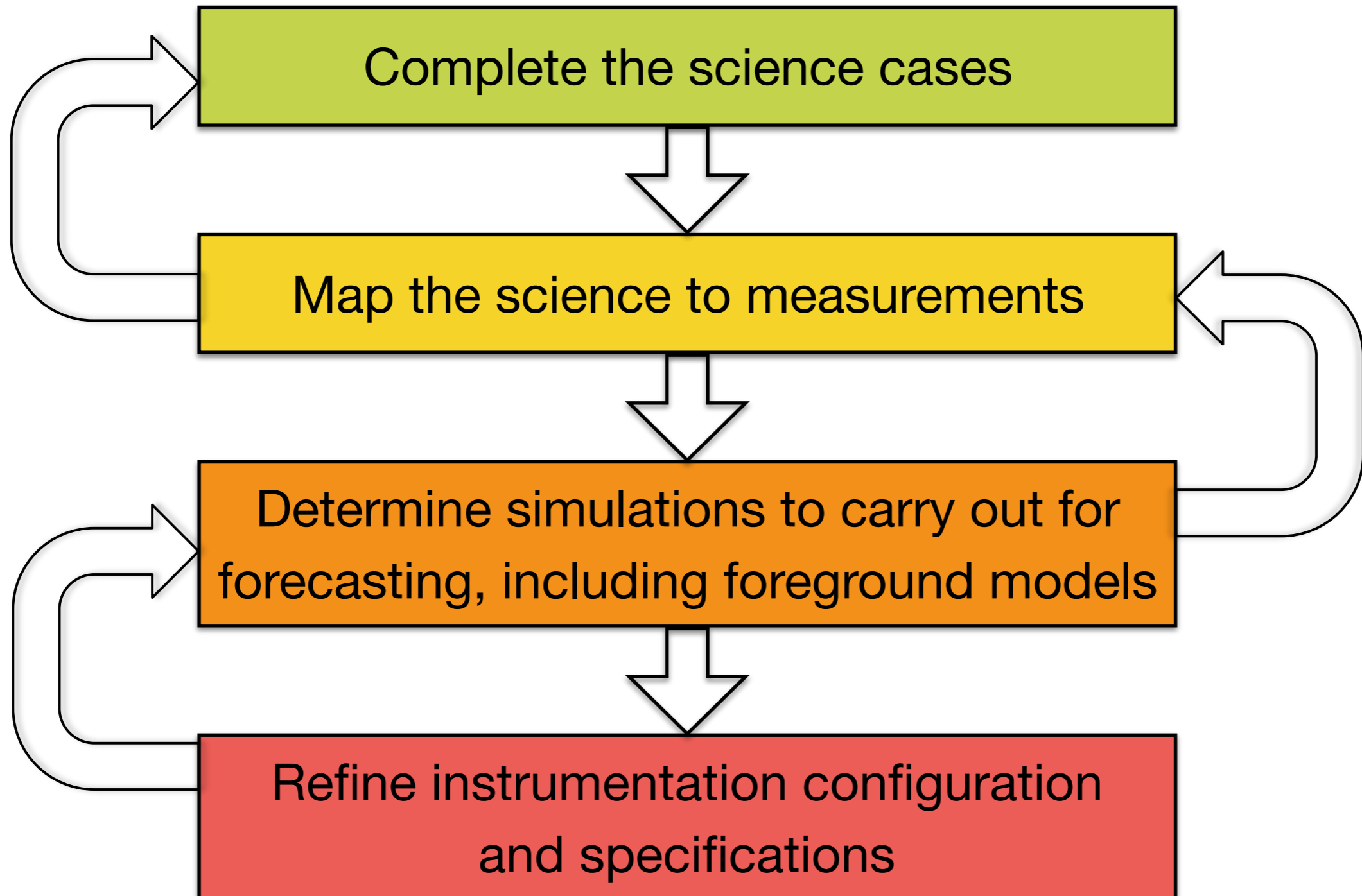


Determine simulations to carry out for forecasting, including foreground models



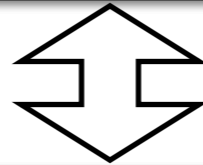
Refine instrumentation configuration, specifications

# A living document...



# Goal of Science Book

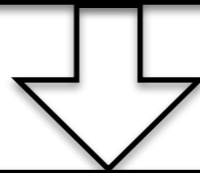
Final science case and projections



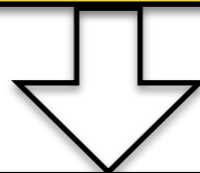
Fully defined instrument

# This workshop

Complete the science cases



Map the science to measurements



Determine simulations to carry out for forecasting, including foreground models

Discuss promising technologies