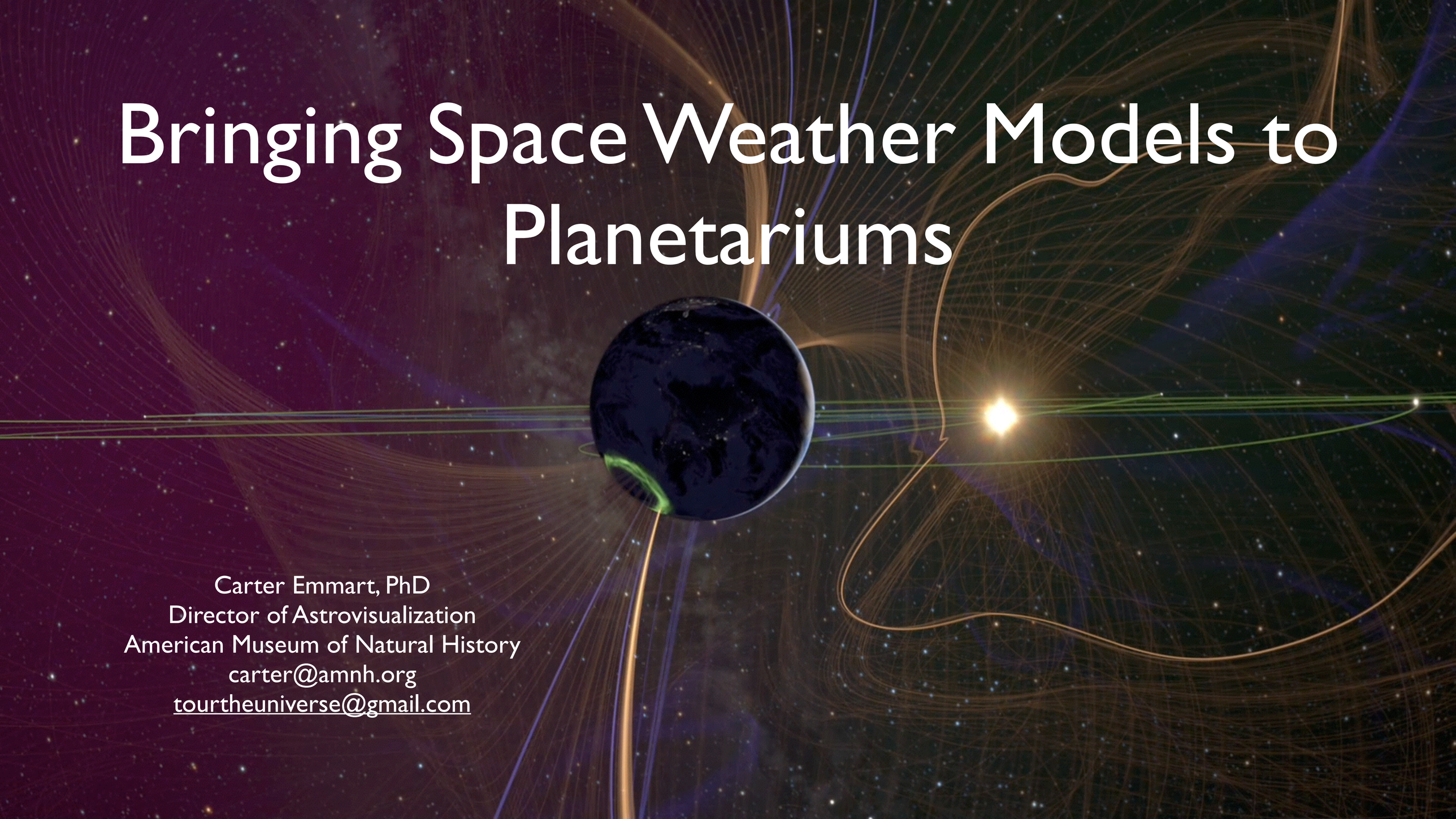
Bringing Space Weather Models to Planetariums



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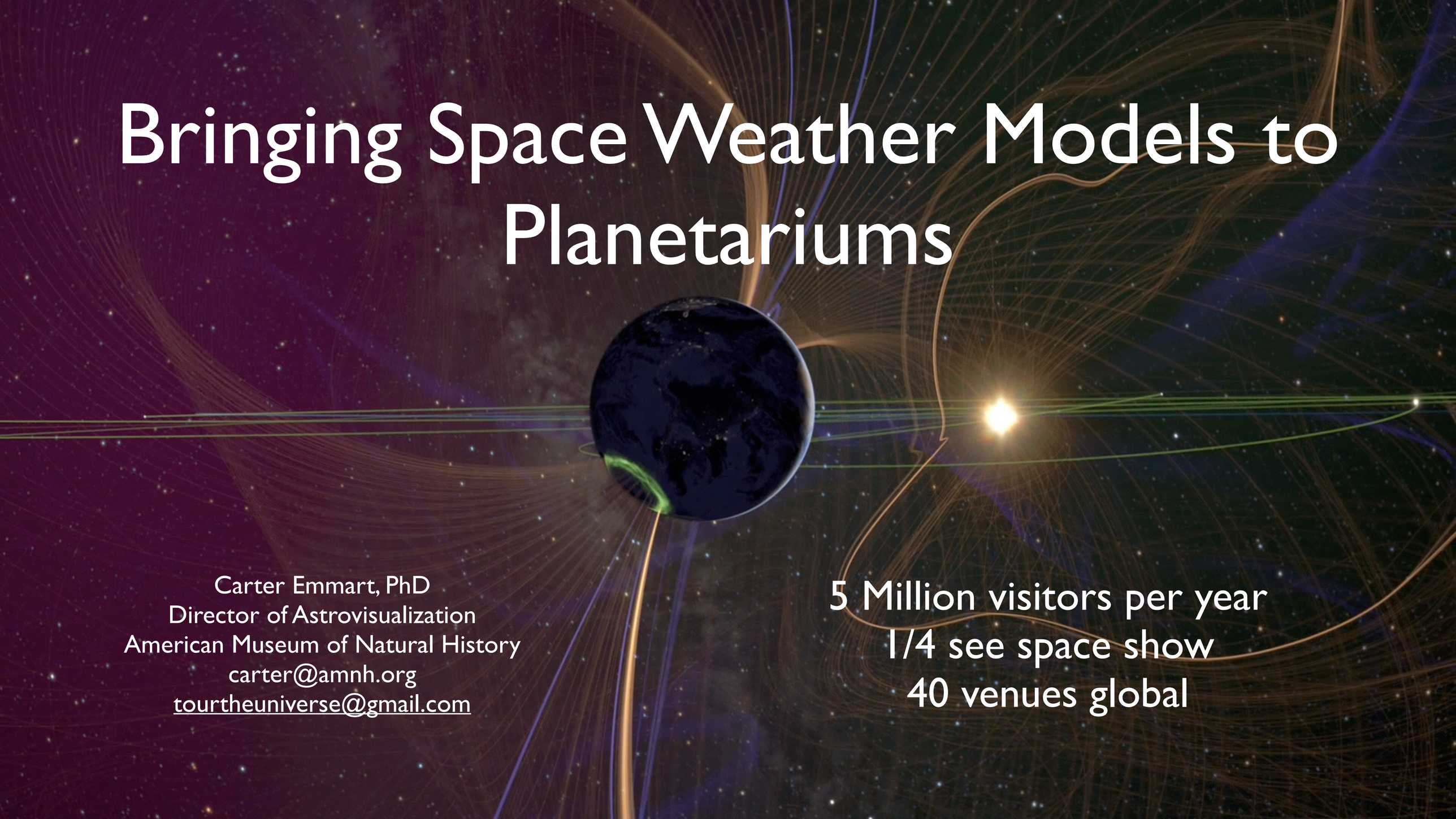

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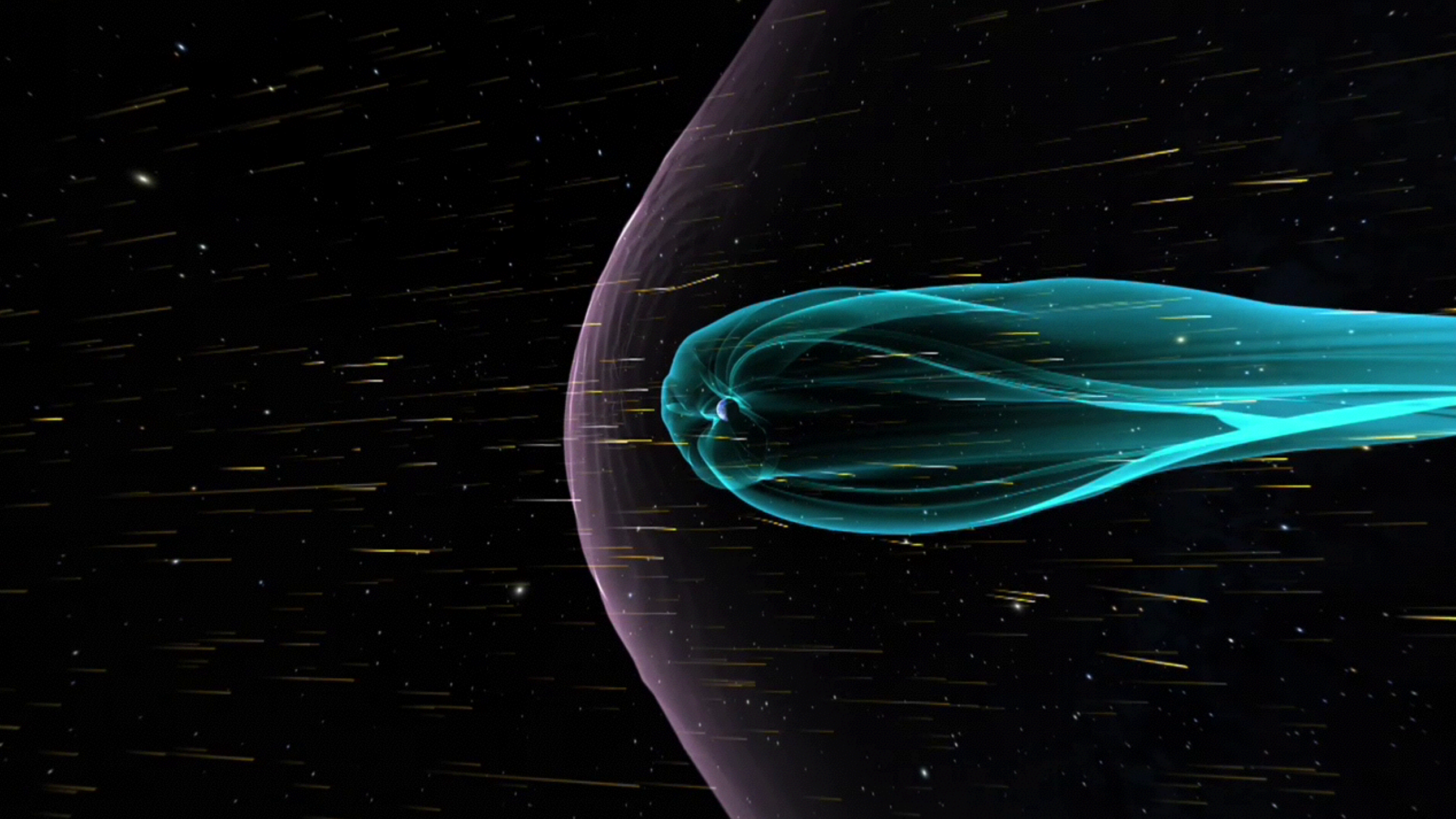
5 Million visitors per year
1/4 see space show
40 venues global

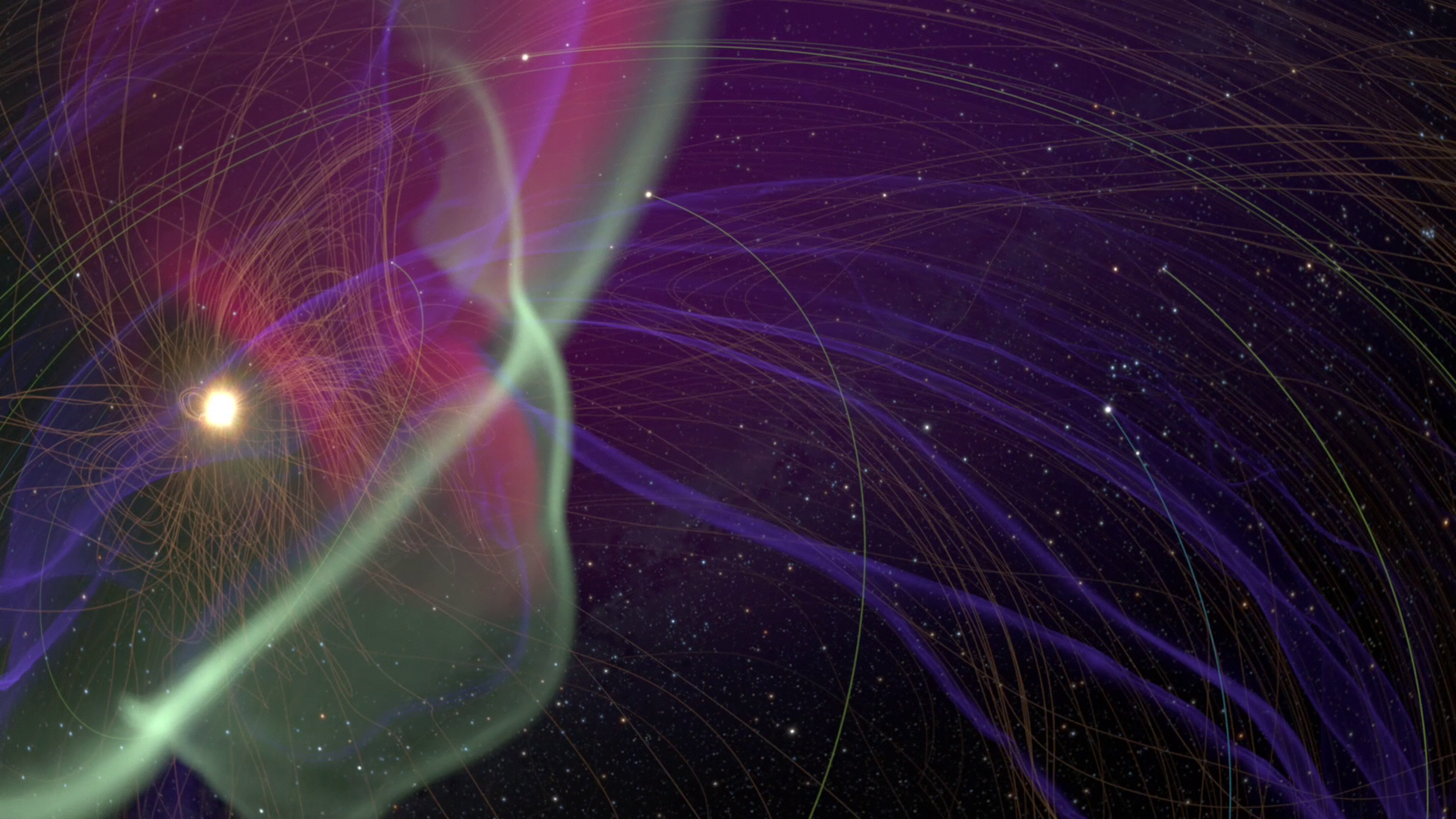
Case 1: Cosmic Collisions

- Interaction, “collision” with the solar winds causes aurorea
- Journey through:
- Magnetosphere, Ionosphere, strato-troposphere
- Last closed field lines (Goodrich, CISM, “Halloween Storm” 2003)
- Illustrate electron mirroring, “whistlers”

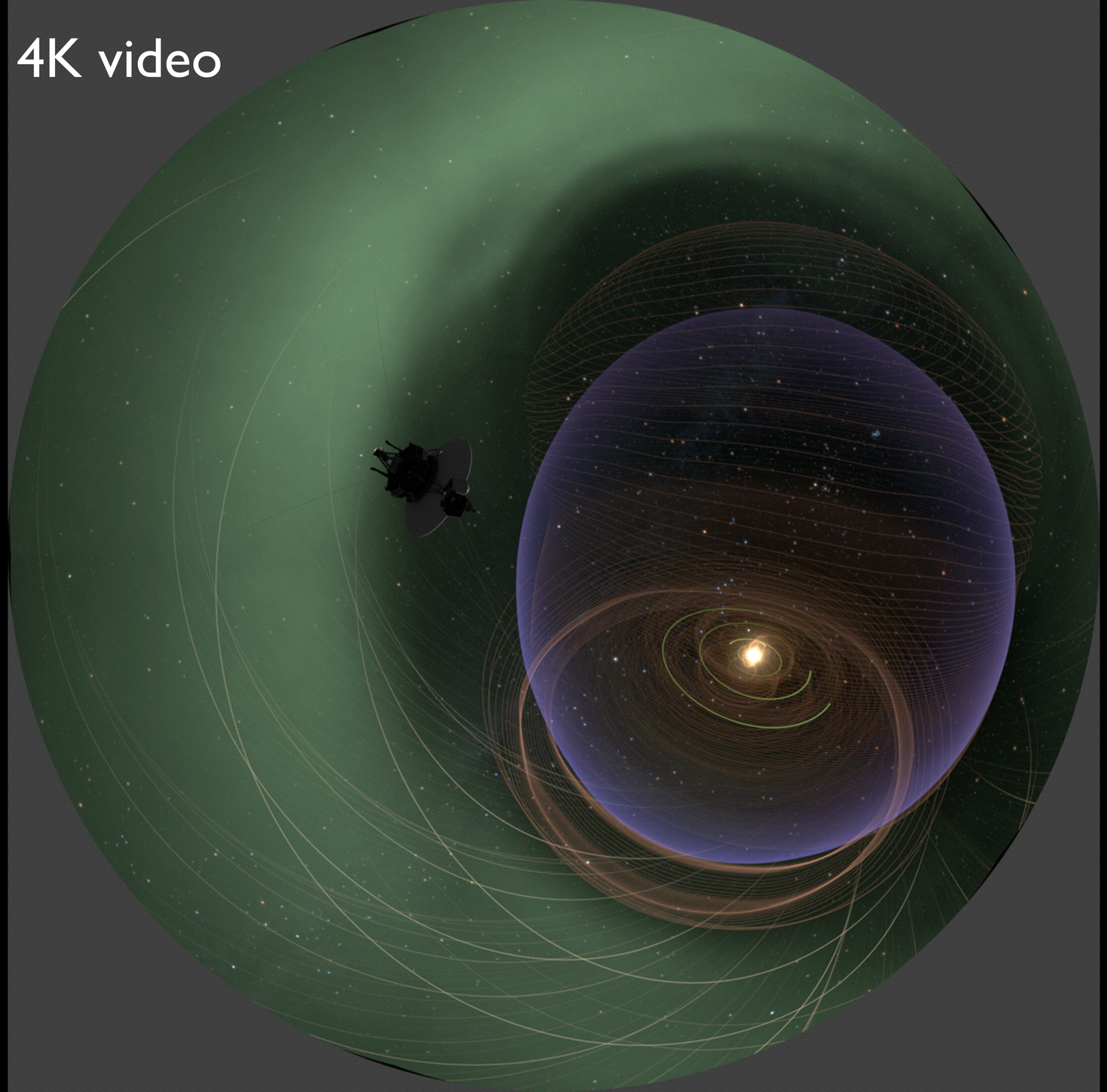


Case 2: Journey to the Stars

- Living with a STAR: Show the Heliosphere we live within
- From observations to model visualization
- Solar Interior (Toomre & Brown)
- Heliosphere & Magnetospheres (Gombosi & DeZeuw)
- Magnetopause (Ofer)



“Full dome” 4K video

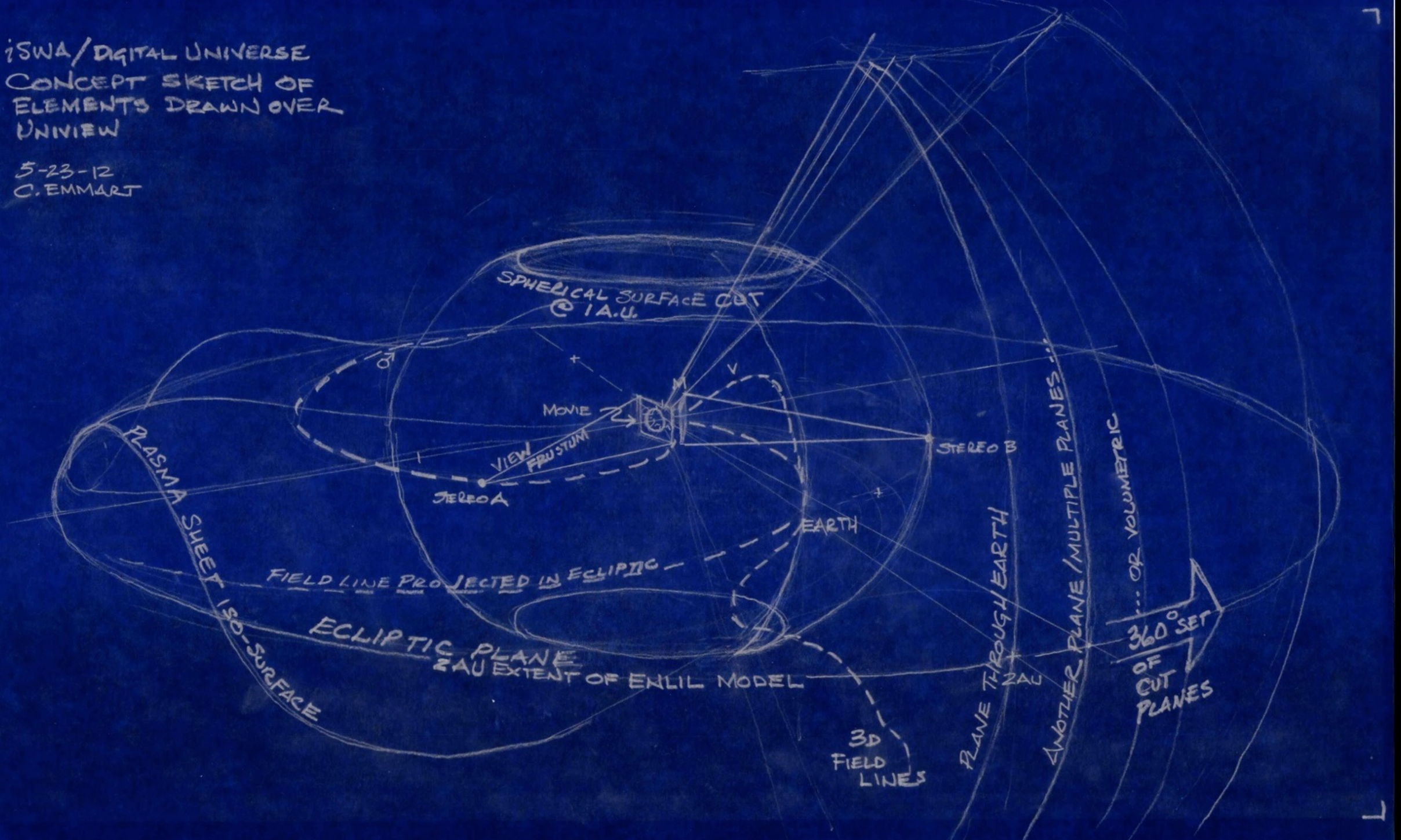


Challenge: from movie to “real-time”, interactive

- “Open Space” software: Linkoping University - GSFC - AMNH
- Planetarium “situation room”
- Multiple visualization modes to explore:
- Scale domains
- Temporal domains
- Observations and Simulation Forecasting

iSWA / DIGITAL UNIVERSE
CONCEPT SKETCH OF
ELEMENTS DRAWN OVER
UNIVIEW

5-23-12
C. EMMART



Questions:

- Solar internal from helio seismology data?
- STEREO reconstruction of 3D plasma volumes?
- Magnetogram total coverage?
- ENLIL vs CONE?
- Older data, older sims - good examples?
- Scientist remote presentations?