Bringing Space Weather Models to Planetariums

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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 aurora

- 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
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?