

Monday Discussion

Second Lemaître Conference, Specola Vaticana

Themes So Far

Talks by Dominique, Claus, Alexander, RB, Ted, Renate, Roberto

Themes So Far

Talks by Dominique, Claus, Alexander, RB, Ted, Renate, Roberto

- ▶ **Singularities:** Lemaître's primeval atom/big bang; black hole curvature singularity
Qs: how confident can we be that the new physics is a "bounce"? Is a bounce consistent with the GSL? Is any information transmitted across the bounce?
- ▶ **Quantum Gravity:** Gravitational Path Integral/CDT/QG at the Scale of Strong Gravity
Q: what happens when I jump into (onto?) a black hole? ...
- ▶ **Looking Forward: DATA!** Hubble Tension, DESI, ...
Q: what is the level of fine-tuning (beyond Λ , which is always present) implicit in dynamical dark energy models?
(Hint: Higgs/hierarchy problem but worse: $m \sim 10^{-33}$ eV. In addition, long range force must be suppressed.)