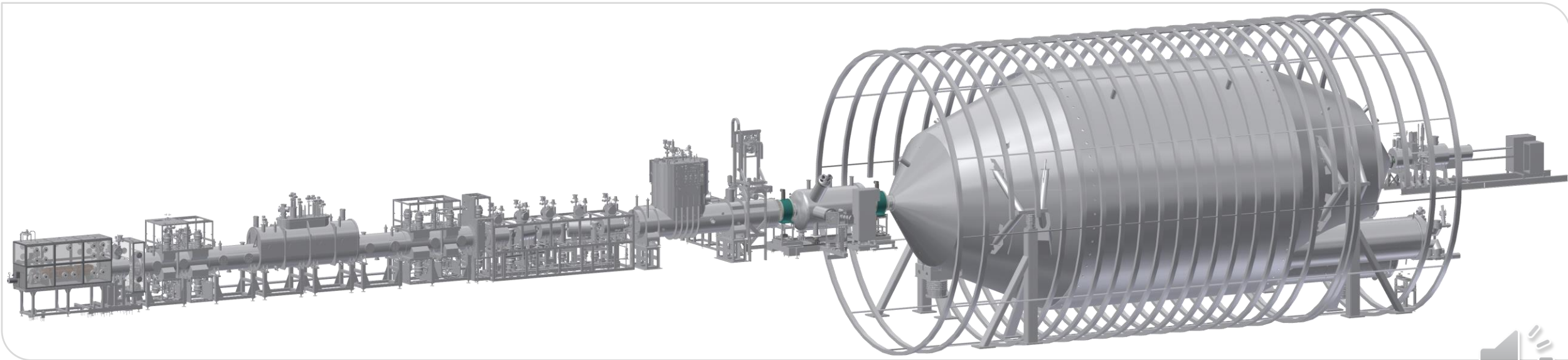


# Virtual tours to the KATRIN experiment

Manuel Klein,<sup>a,\*</sup> Christian Humm,<sup>b</sup> Leonard Köllenberger,<sup>a</sup> Philipp Niemann,<sup>b,c</sup> Yannic Scheuermann,<sup>c</sup> Philipp Schrögel<sup>b</sup> and Kathrin Valerius<sup>a</sup>

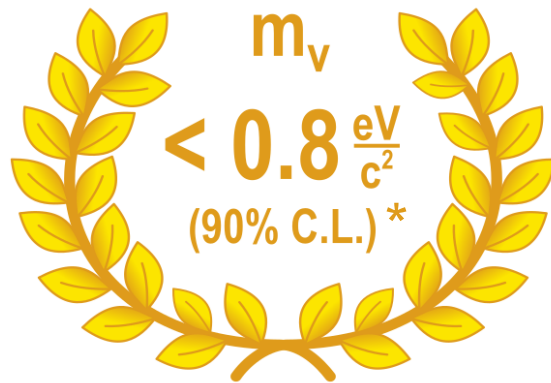
<sup>a</sup>Karlsruhe Institute of Technology (KIT), Institute for Astroparticle Physics (IAP), <sup>b</sup>KIT, Department for Science Communication,

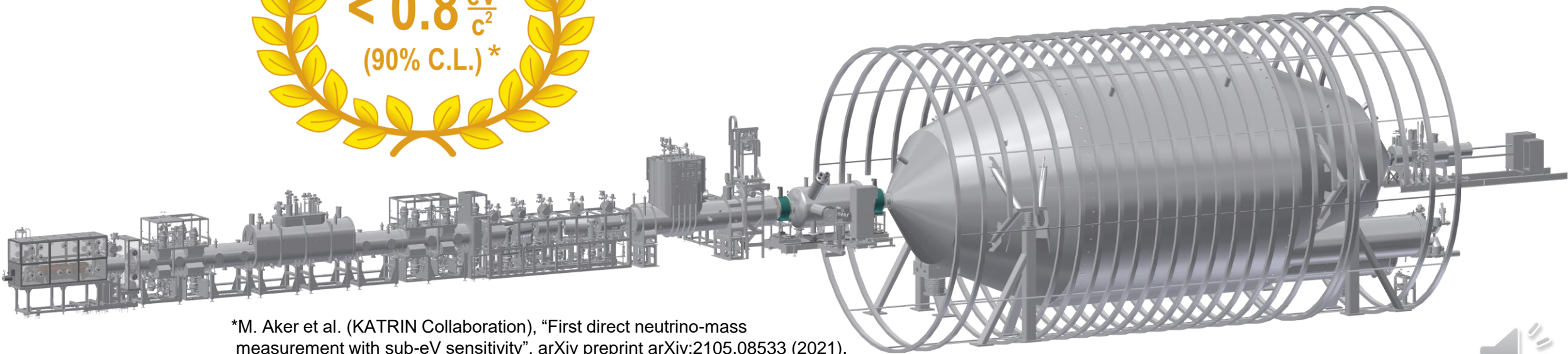
<sup>c</sup>National Institute for Science Communication (NaWik)



# The KATRIN experiment

- Model-independent measurement of the absolute neutrino mass
  - near the endpoint of the tritium beta spectrum
  - with the MAC-E filter principle


$$m_\nu < 0.8 \frac{\text{eV}}{c^2} \quad (90\% \text{ C.L.})^*$$

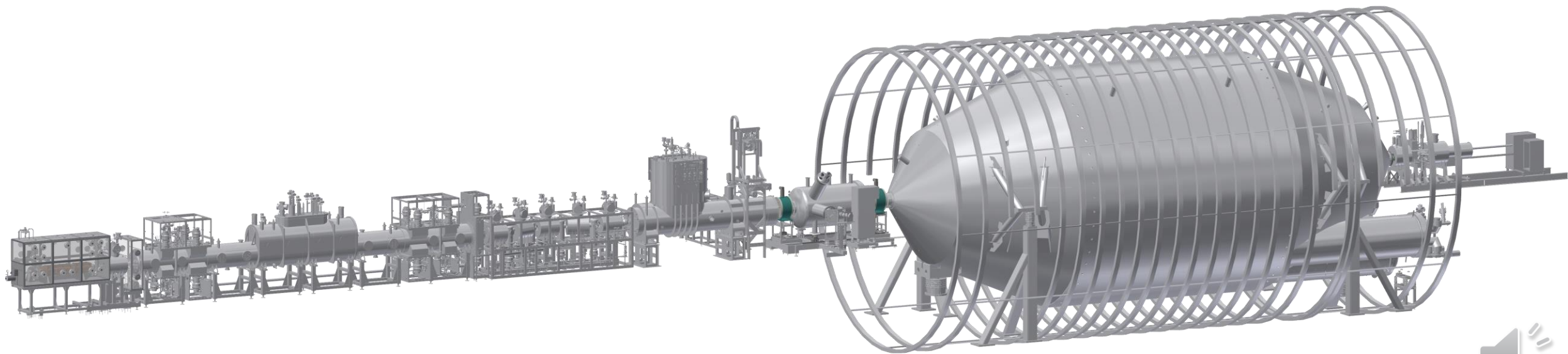


\*M. Aker et al. (KATRIN Collaboration), "First direct neutrino-mass measurement with sub-eV sensitivity", arXiv preprint arXiv:2105.08533 (2021).



# Motivation for virtual tours

- **Restricted access** due to the measurement conditions and Covid-19
- **Visualisation** of the setup, particle processes and historic events
- **Interactive exploration** of the beamline and lab



# Three kinds of virtual tours

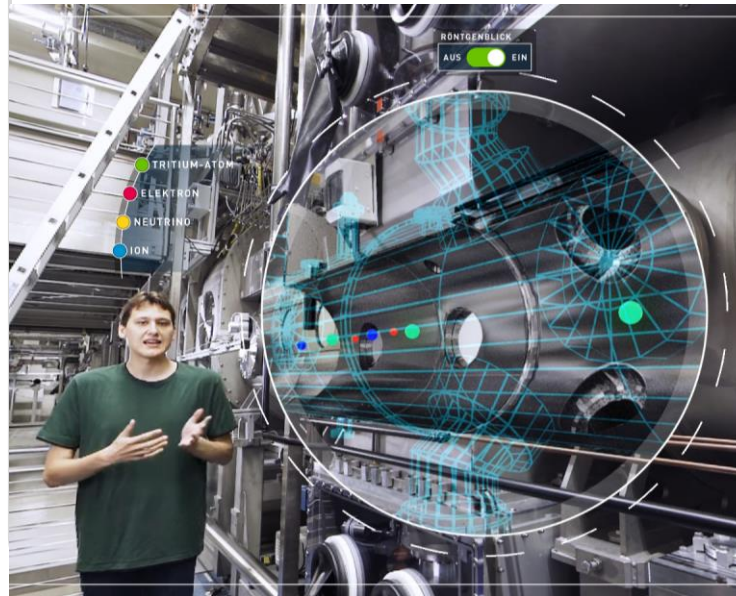
## Guided video tour

zoom video stream  
with live commentary



## 360° VR panorama

360° panoramas  
+ guide + info points



## Low-poly model

3D viewer  
is work in progress

