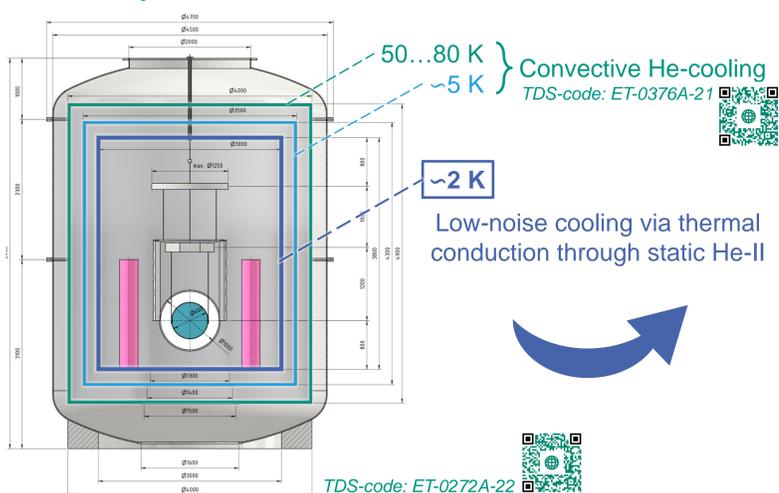


# Development status of the inner thermal shielding for the ET-LF cryogenic payloads

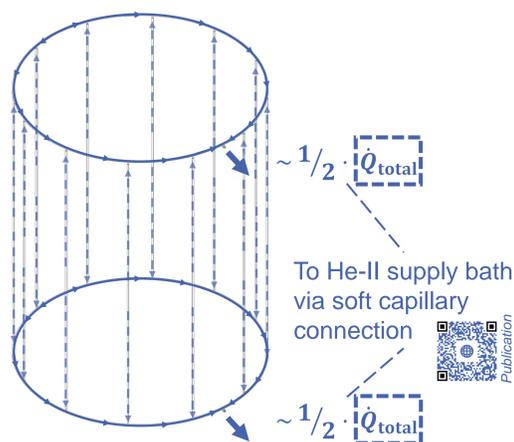
L. Busch and S. Grohmann

## Concept

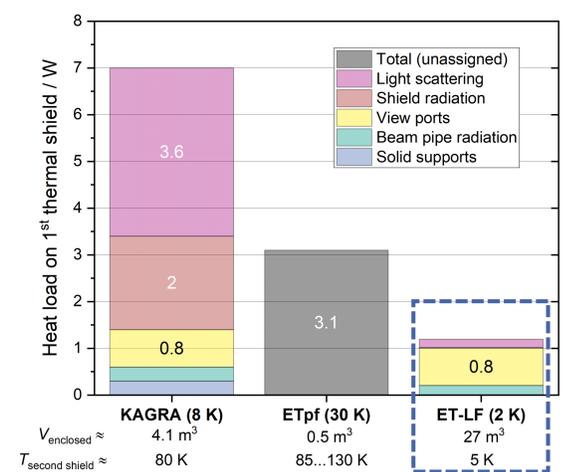
### ET-LF cryostat draft



### Heat extraction via He-II-filled frame

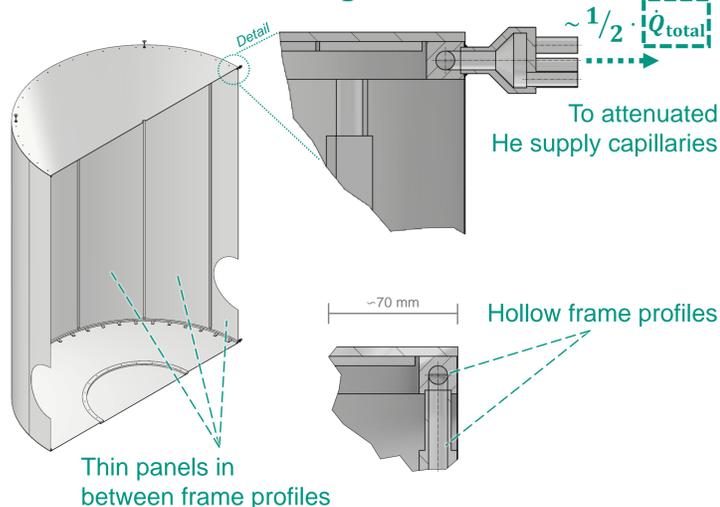


### Estimation of $\dot{Q}_{total}$



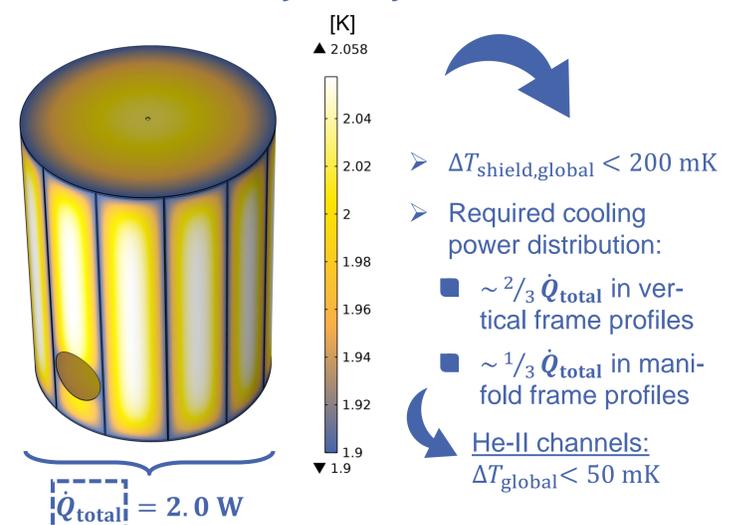
## Thermal design status

### First technical drawing



Parameter	Value / expression
Diameter	~3.0 m
Height	~3.8 m
Total weight	~300 kg
Material	Al (1xxx series)
# panels	12
Panel thickness	0.5 mm

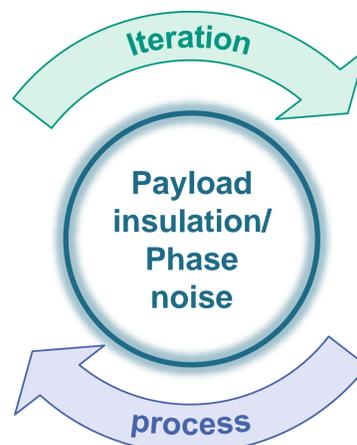
### Preliminary steady-state thermal model



## Prospects

### Thermal

- Impact of shield shape on radiated heat from beam pipes
- Cool-down behavior
- Required positioning of pressure relief devices
- He-II condensation into frame profiles



### Mechanical

- Seismic and system-induced vibration attenuation (via shield supports)
- Resonant frequency and vibration amplitude consideration in design
- Wide-angle-baffle implementation (?)