

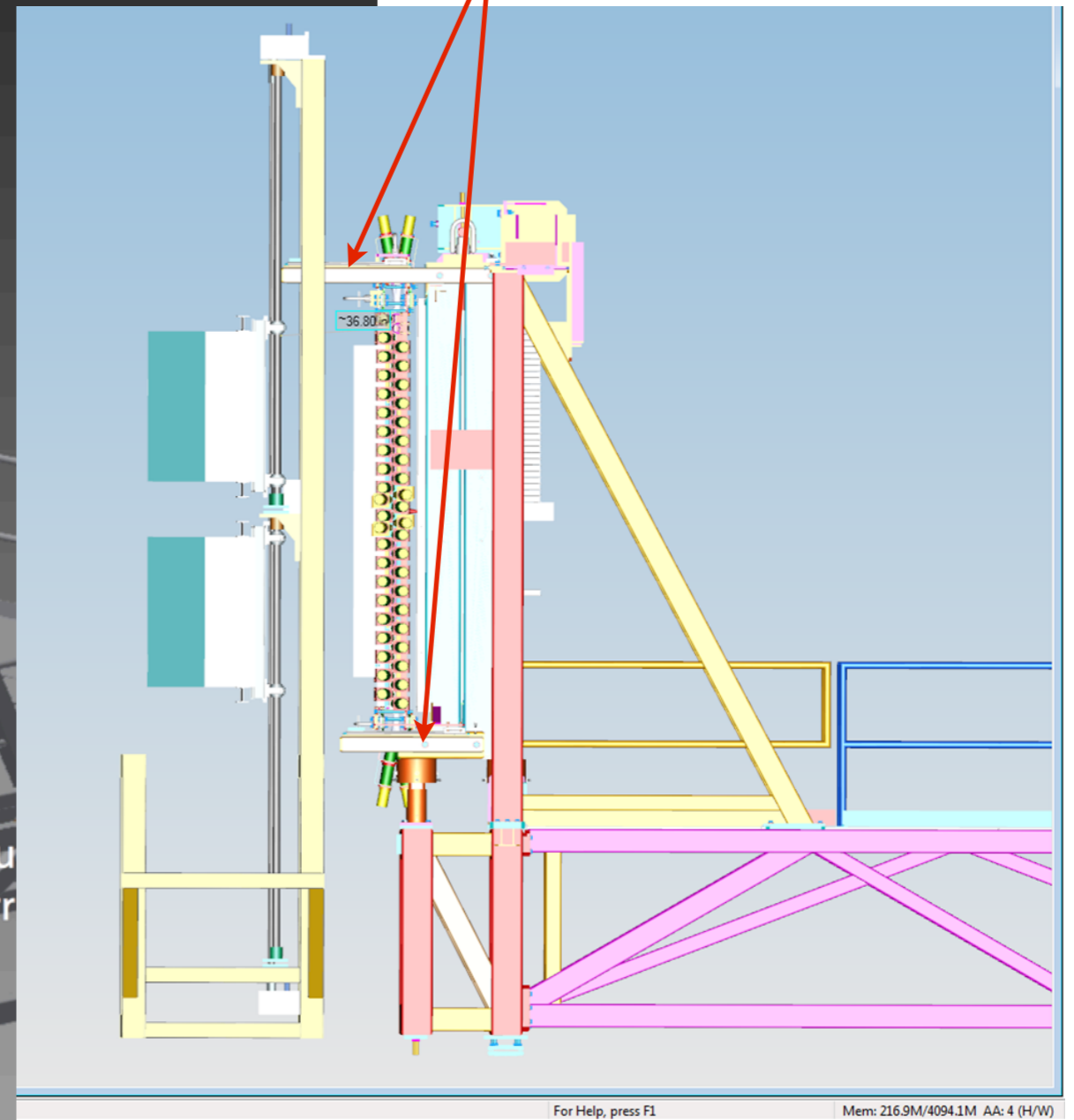
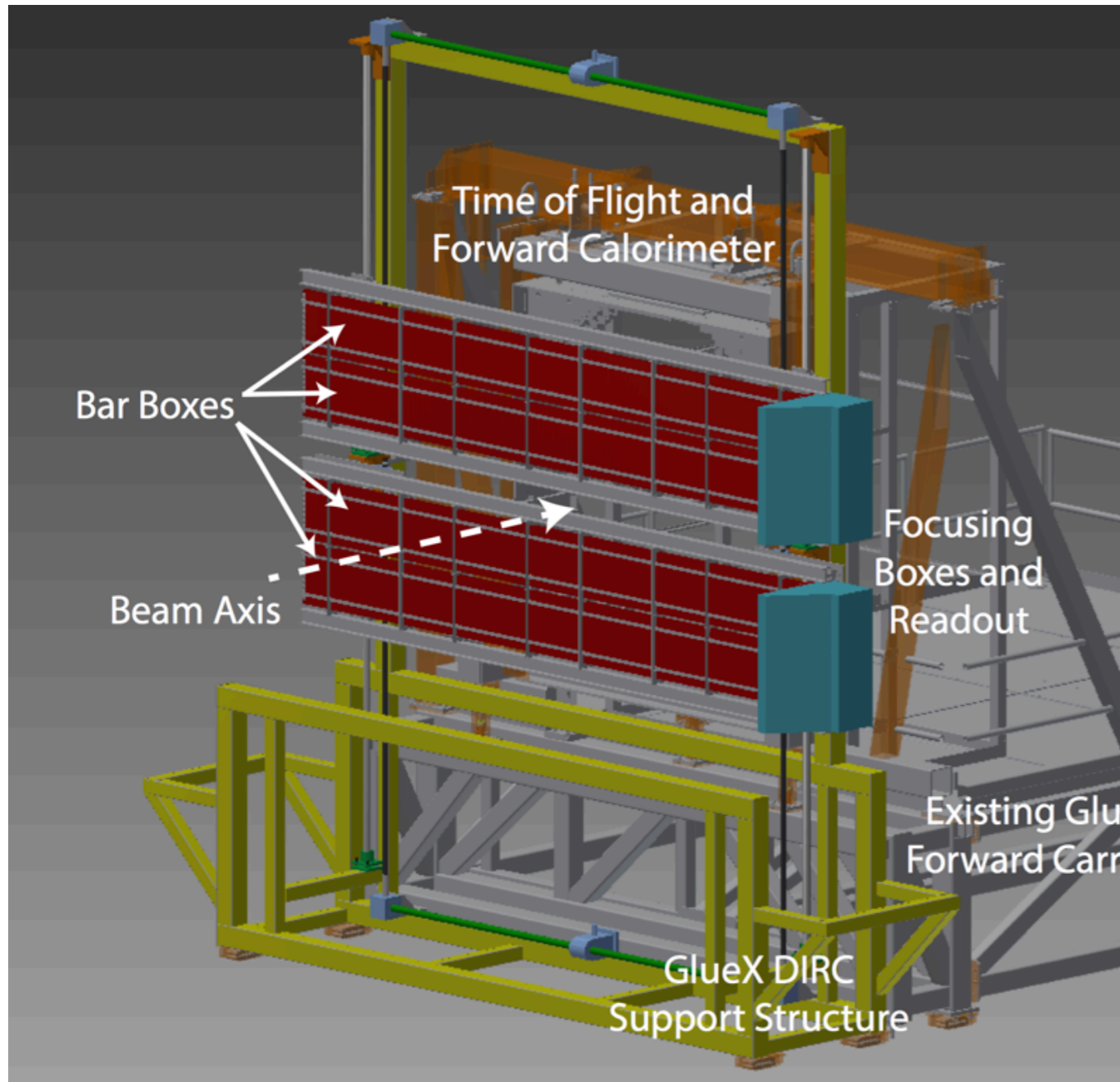
Support Structure Concept Discussion

Justin Stevens
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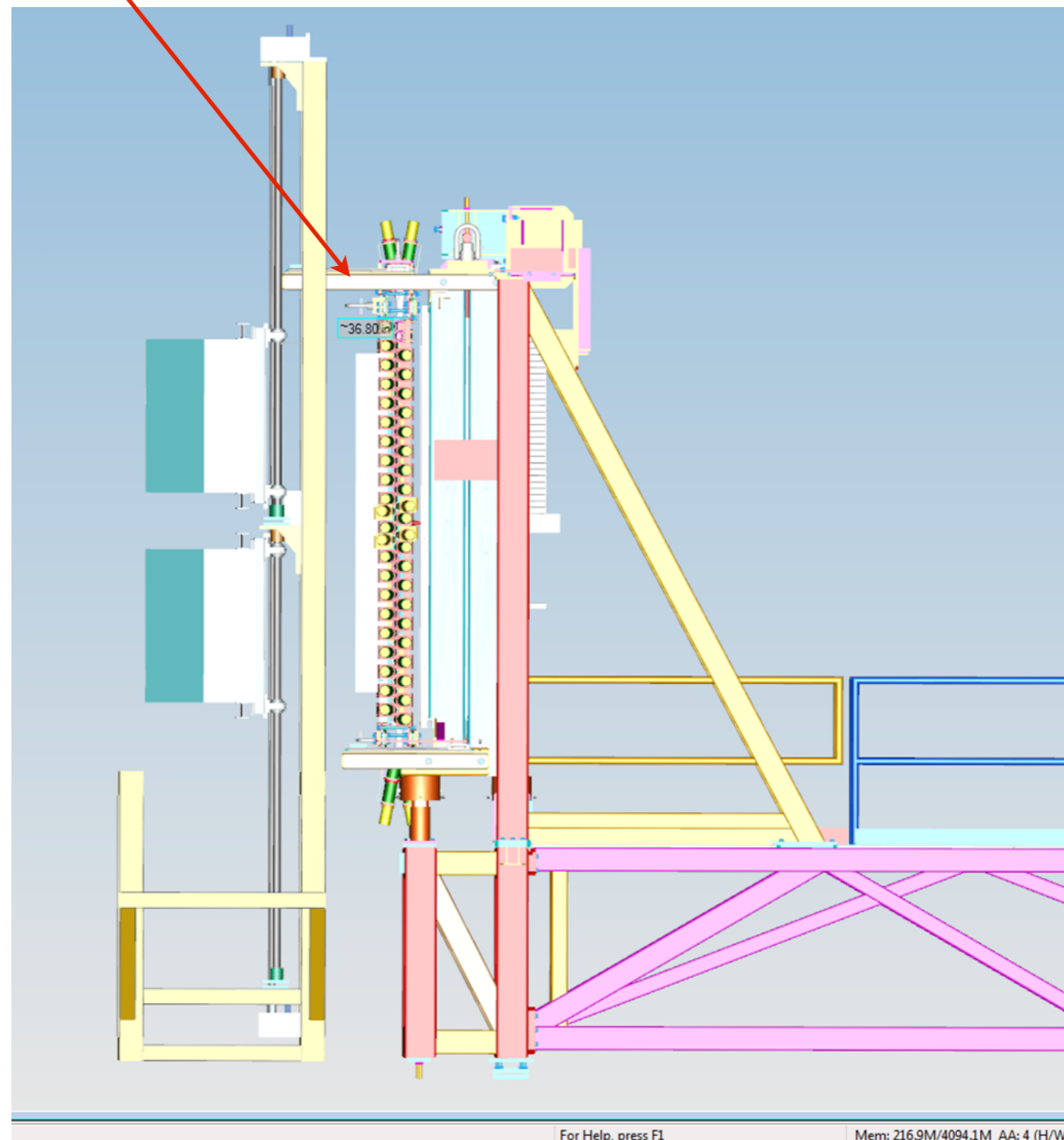
TOF support beam interference

TOF support beams



TOF support beam interference

TOF upper support beam limits z-position of bars



For Help, press F1

Mem: 216.9M/4094.1M AA: 4 (H/W)

Current support structure concept

* **Pros:**

- * Bar boxes can “easily” be moved out of the forward acceptance
- * The support structure fits in the available space with the current TOF support beams (per Tim)

* **Cons:**

- * DIRC bars are ~30 inches in front of the TOF plane
- * EM showers can start “far” upstream of the FCAL (photon losses?)
- * Polar angle acceptance of the bar boxes is more limited the closer it is to the solenoid (ie. need to move boxes closer to the beamline)

* **Questions:**

- * What is the impact on DIRC performance vs z-position of bars?
- * What is the impact on FCAL performance vs z-position of bars?

Possible alternatives

- * **Shorten TOF support beams**

- * Must remove TOF entirely, modify supports and re-install (significant effort)
- * May lose some capability to UV cure FCAL Pb-Glass blocks

- * **Provide ability to keep DIRC in fixed location while rolling the forward carriage**

- * After forward carriage is rolled back one can move DIRC bars up/down or provide space to slide TOF on support beams for UV curing of FCAL
- * Requires alternative (temporary) method of supporting DIRC without forward carriage

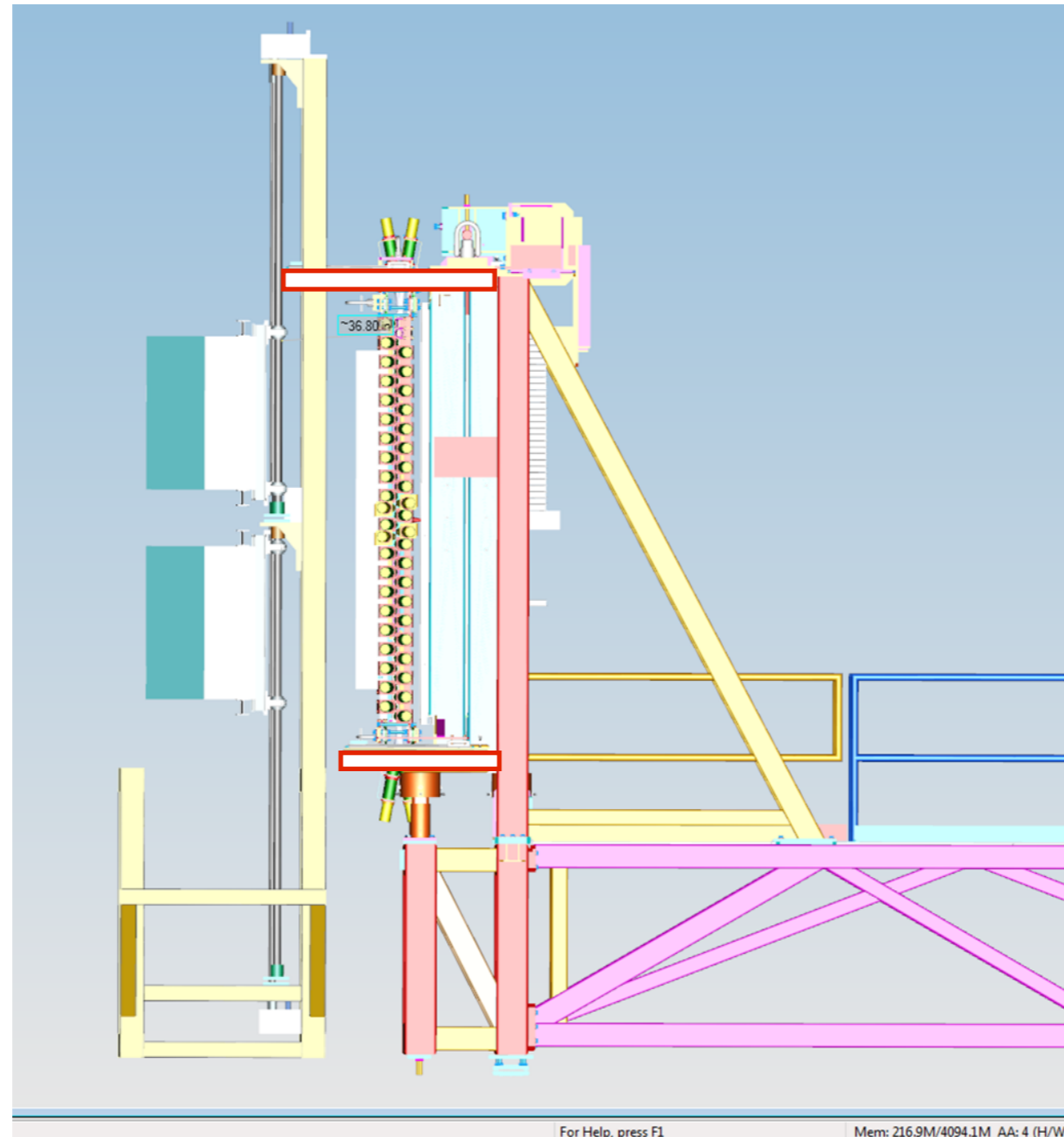
- * **Slide bar boxes to the side of the hall instead of up and down**

- * Requires additional support structure and eats up a lot of space in the hall

- * **Remove TOF when DIRC is installed?**

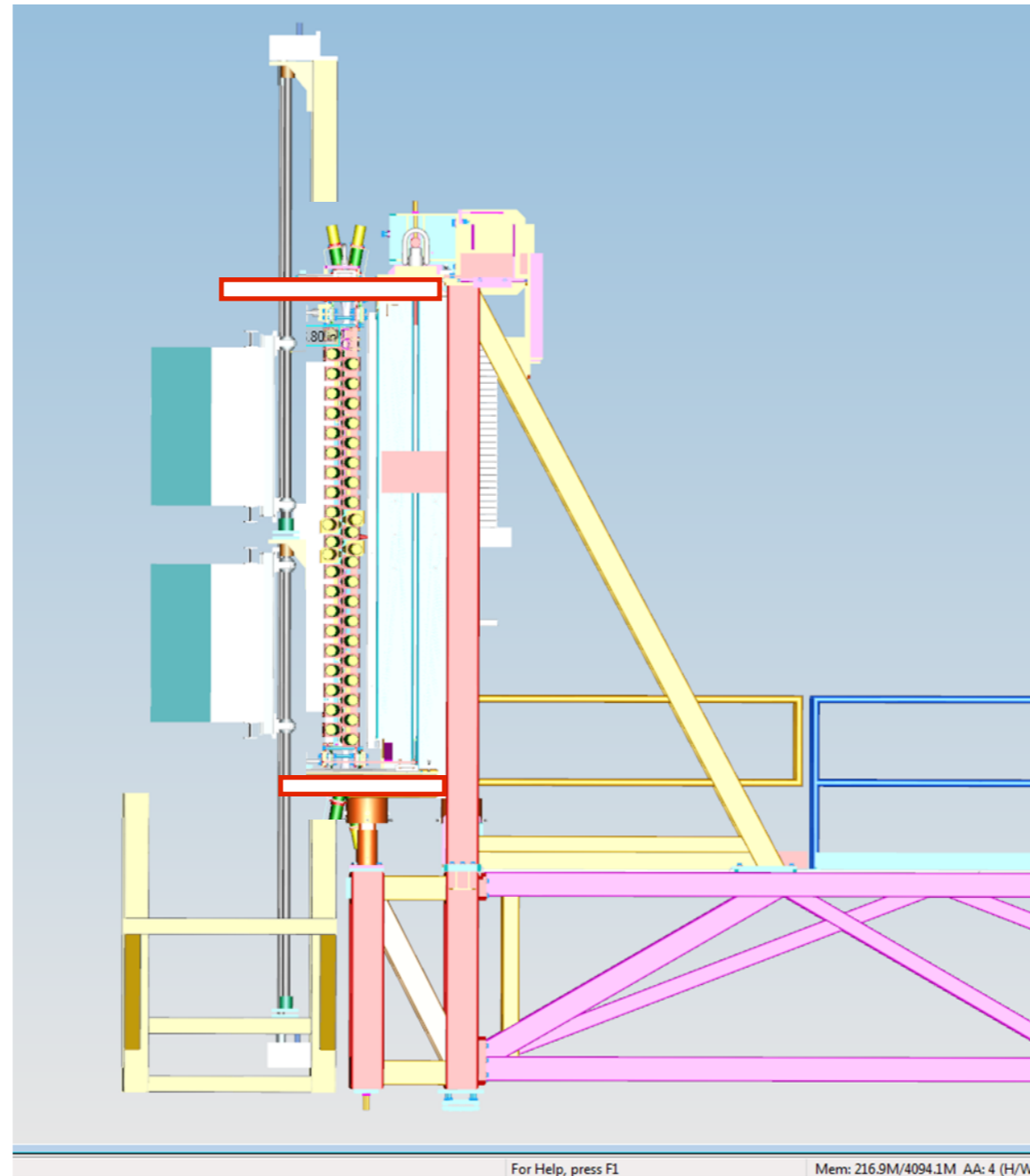
- * This is the closest the bar boxes can be to the FCAL
- * Is timing provided by MAPMTs/electronics similar to TOF?
 - * Need precision timing for RF bunch selection?
- * Could TOF be put back for other experiments (eg. η Primakoff)?

Current support structure



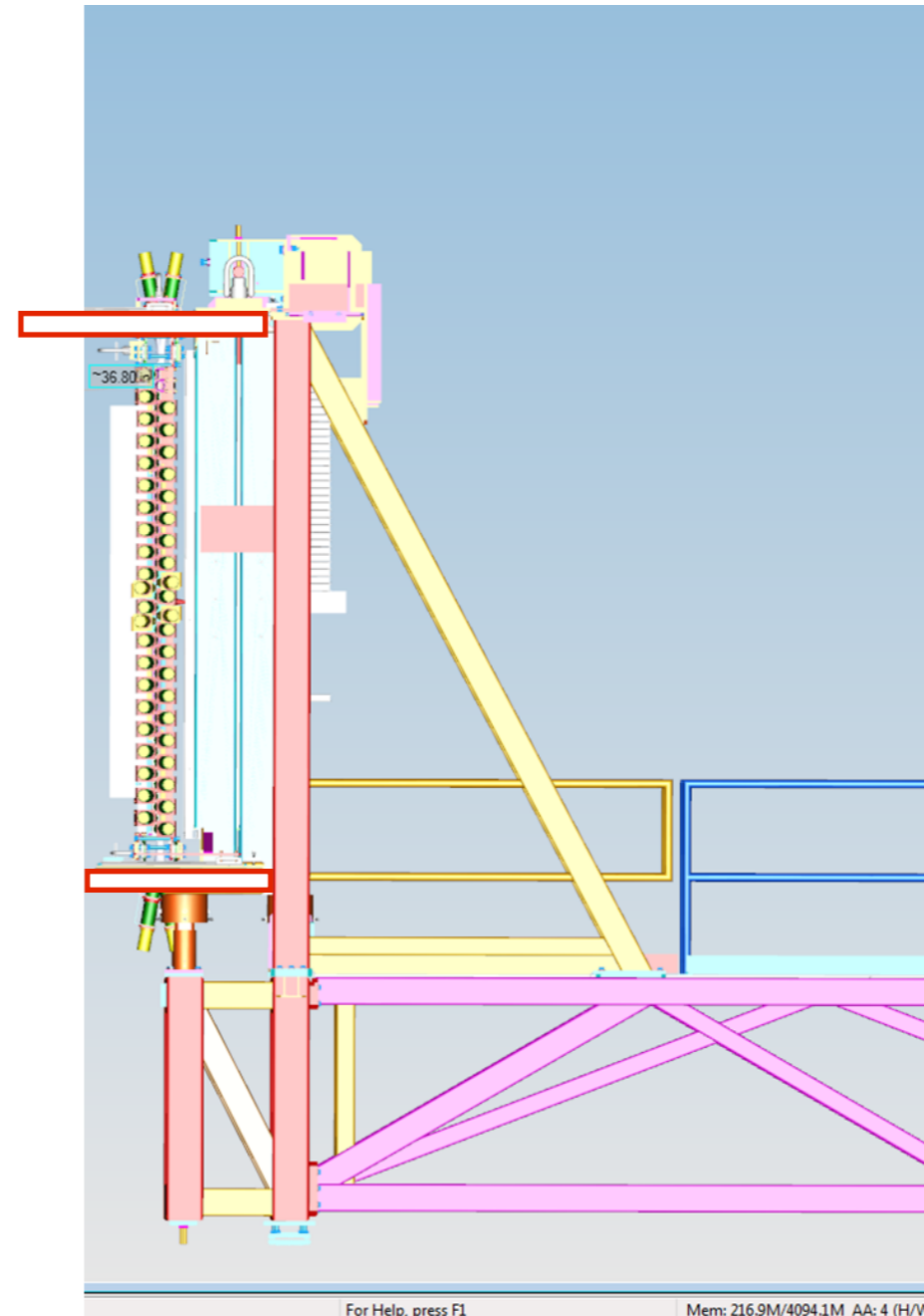
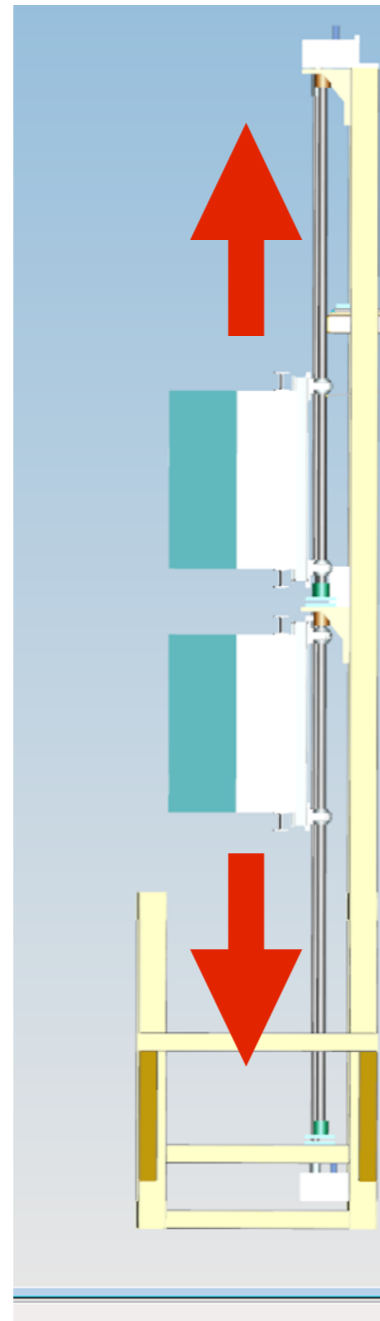
Prefer closer to TOF plane

Can't move DIRC bars out of active area

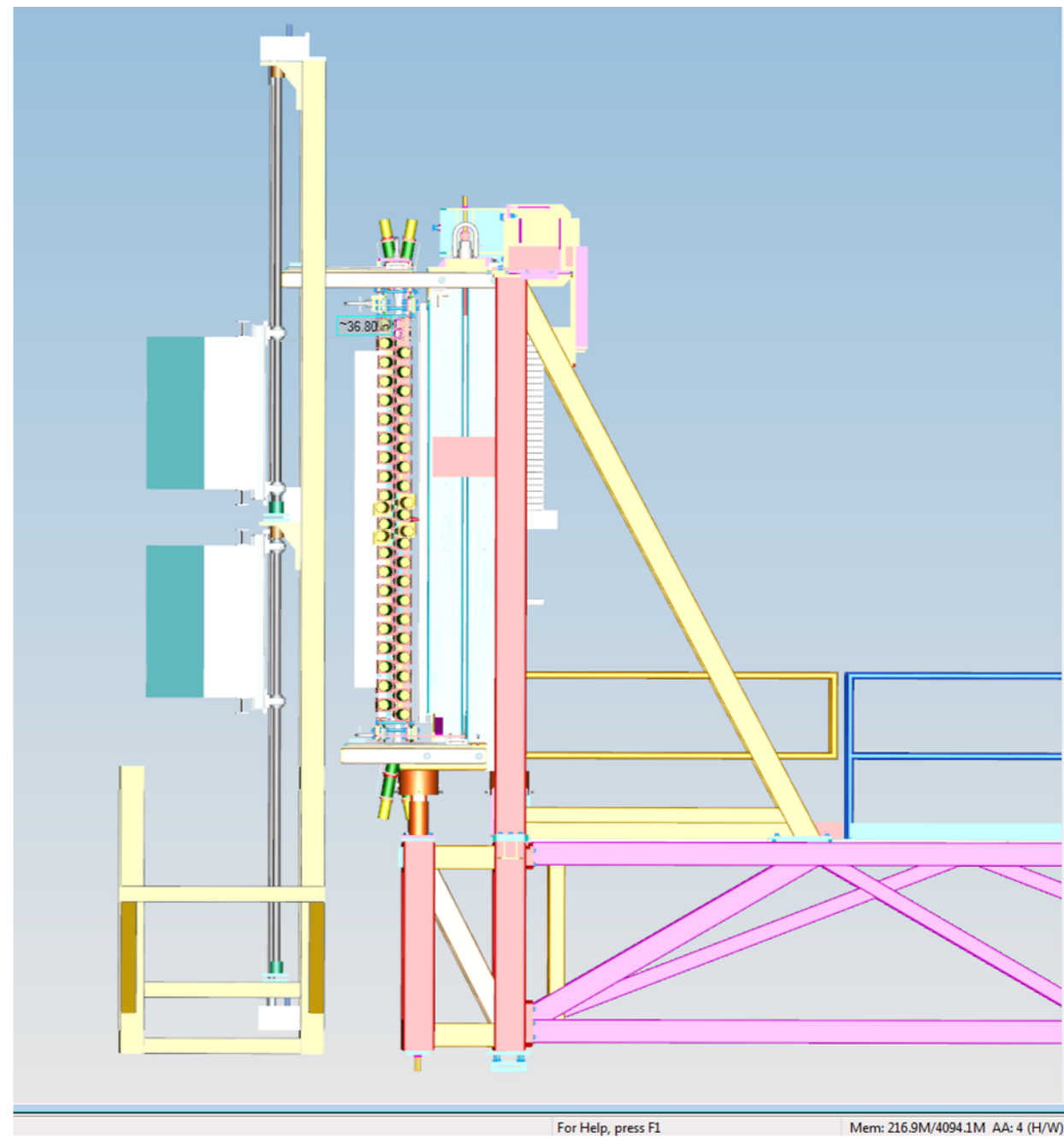
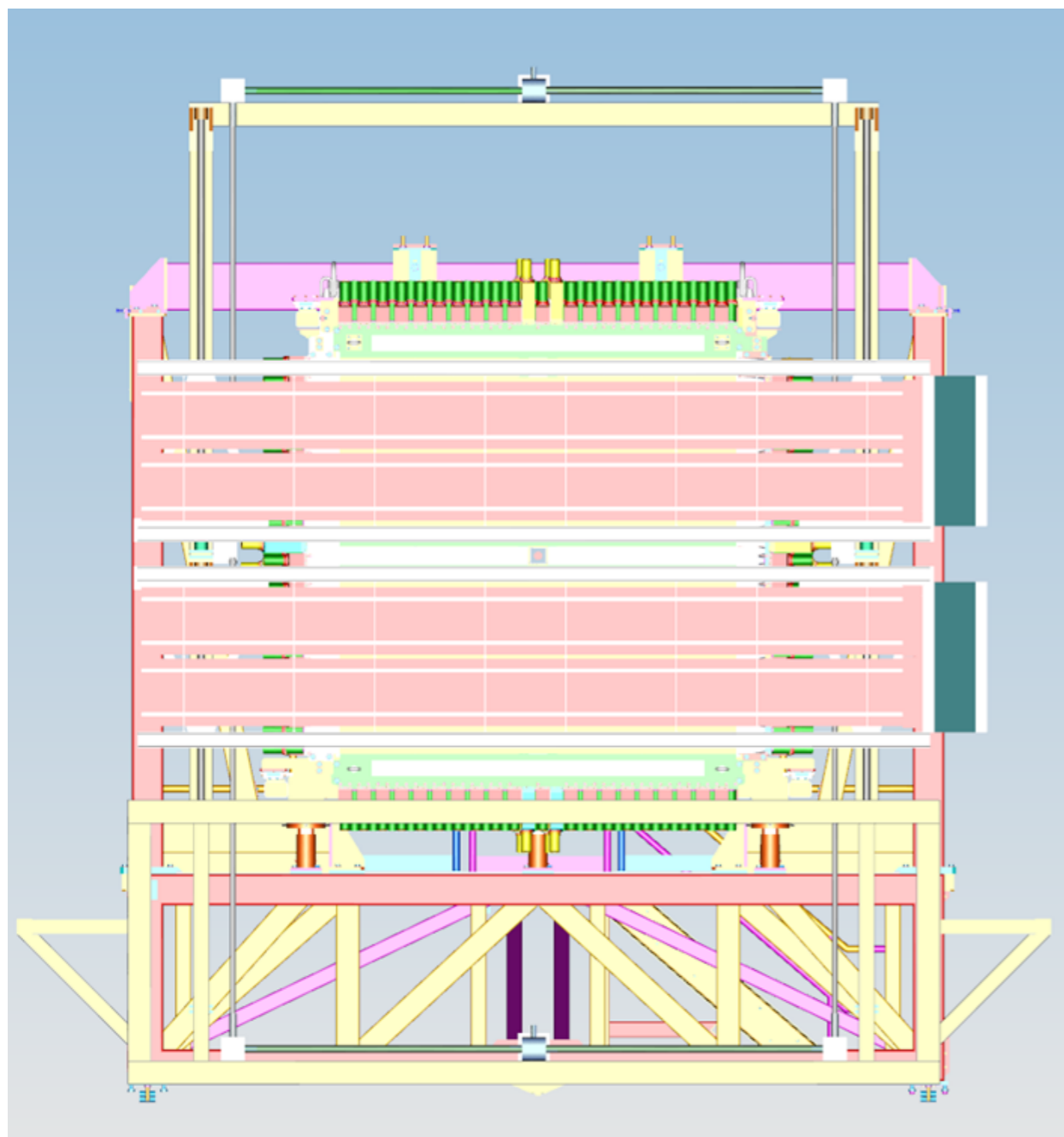


Roll FCAL carriage without DIRC

Requires separate support (on solenoid carriage?)



View from upstream



View from below

