

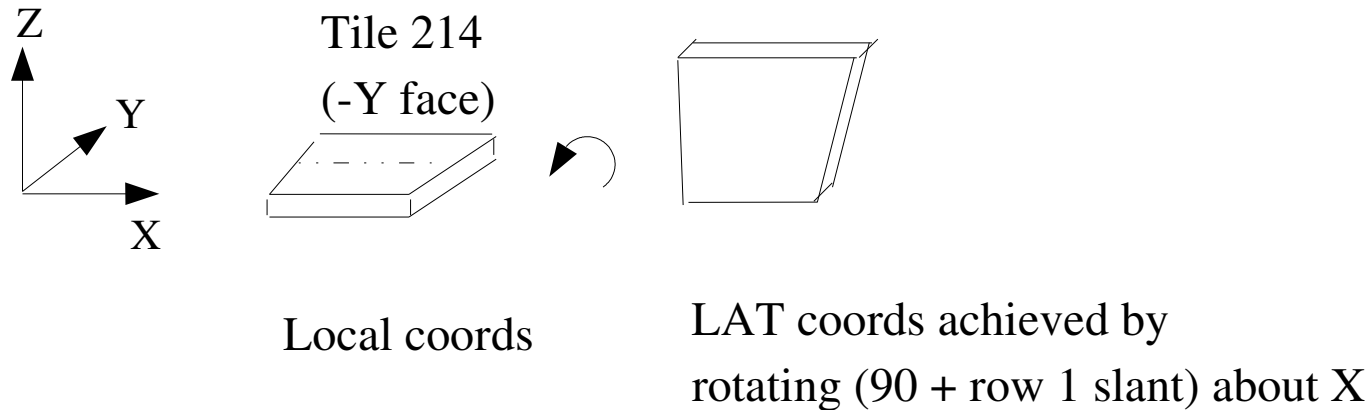
Trapezoids

- Modeling volume shape
- Rotations
- Display
- Interactions with ACD code
- Status

Rotations

- Versions of xmlGeoDBs prior to v1r46 defined side tiles so that no rotations were necessary; i.e., local coordinate system = LAT global coord.
- G4 trapezoidal solids have a canonical orientation: Z is thickness, Y is height of trapezoid.
- ==> All trapezoidal tiles must be rotated. Easiest to just rotate all side tiles.

Rotations (2)

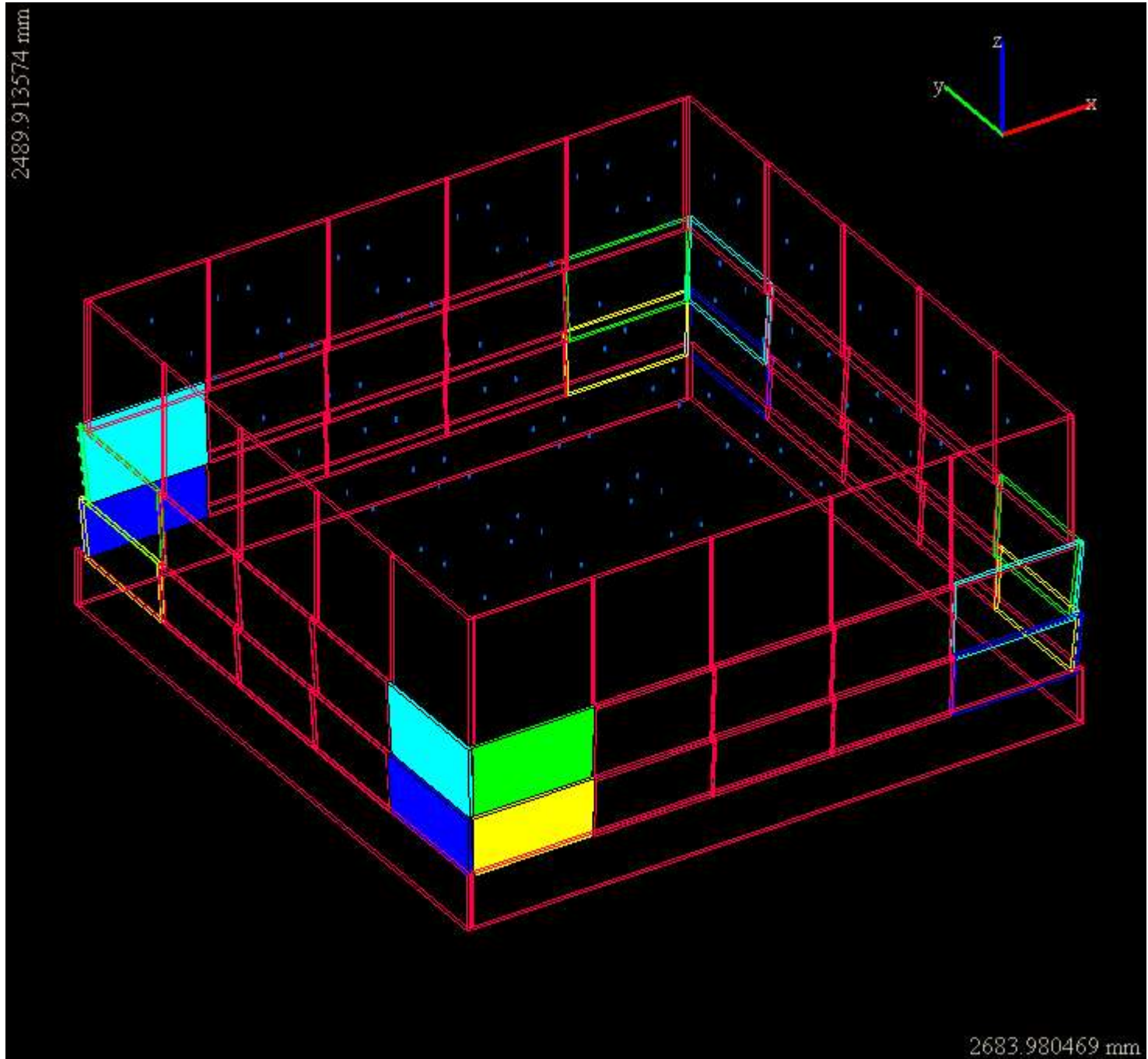


For other faces, rotation about X is followed by one about Z.

This appears to be working correctly as displayed by Fred. Don't yet know about G4.

Update: There was an old bug in G4Geometry causing rotations to be applied in the order. Swapping appears to produce a self-consistent 1-event display, but

We still need a way to display geometry directly from Geant!



Acd Code & Geometry

- There is no feasible automatic way for ACD code to handle all these changes, but we could do better
 - Auxilliary xml file in xmlGeoDbs pkg, to be read by AcdUtil
 - Per-subsystem version info in geometry description
- In the meantime, must be careful to build releases with compatible pkg versions.

Status

- Trapezoids are in geometry description and fully supported as of GR LATEST-1.3452
 - In Fred display
 - In generation of G4 geometry
 - In ACD code, thanks to Eric C.
- but the last two are largely untested.