Our Ideas to extend GEAR

Current Geometry:

- One TPC (=Endplate?) with one PadRowLayout2D

Extension:

- One TPC with several PadRowLayout2D

or

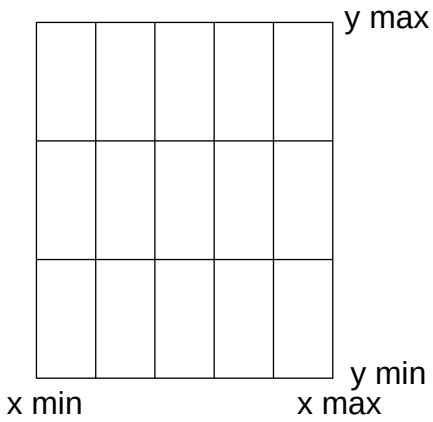
- One TPC with several ReadoutModules, each with one PadRowLayout2D
  - Each module has an angle and an offset wrt. to base coordinate system

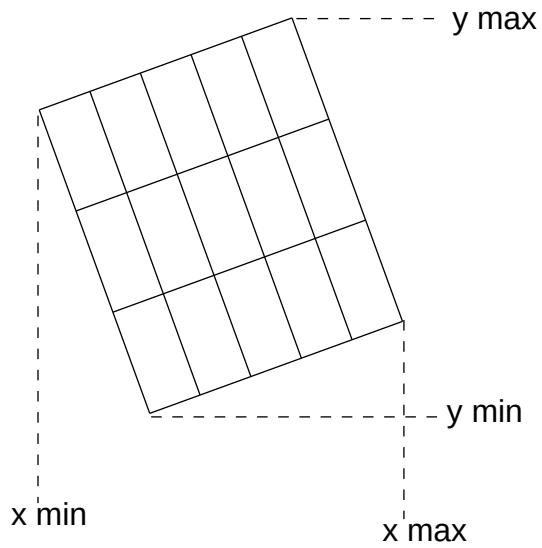
The first version does not work because PadRowLayout2D assumes coordinates to be global (see next page).

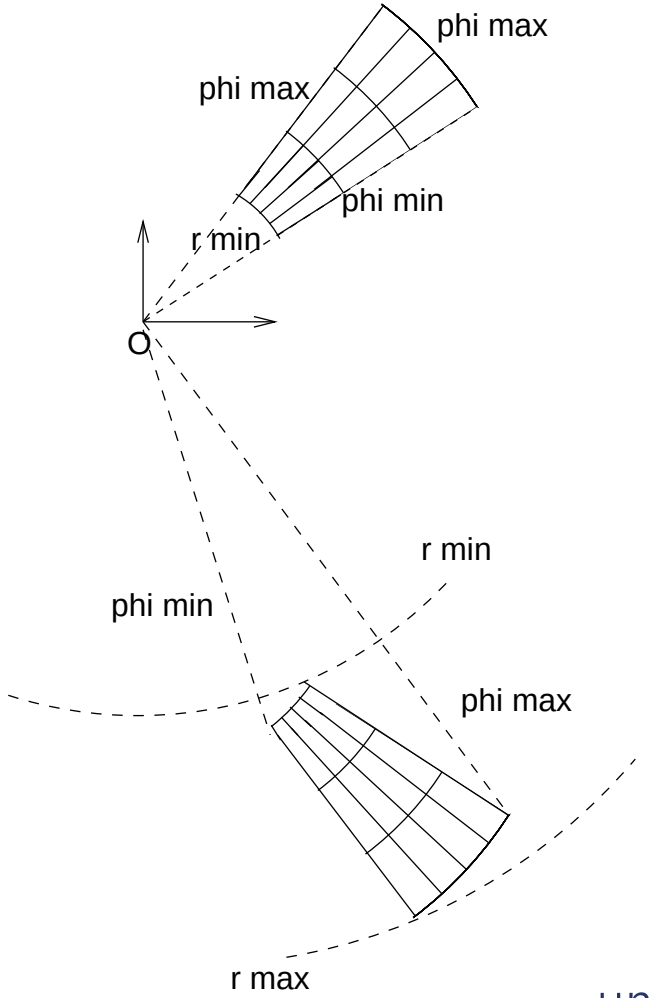
universitätbonn

PlaneExtend in Global Coordinates

PlaneExtend is not an appropriate description for rotated / translated pad plane







Possible Solutions

1. Several TPCs, each with one PadRowLayout2D
   - \+ Minimal extension to GEAR
   - – "Poor man's solution"
   - – Offset and angle have to be stored as GEAR user parameters with each
   - – Rotation and translation have to be performed in user code
   - – Implementing in global likelihood fit will become an ugly hack

2. Implement ModularTPC with TPCModule improved pad layout class
   - \+ Good interface
   - \+ Rotation and translation in PadPlane or Module Class
   - \+ Overcome inconveniences and insufficiencies in PadRowLayout2D
   - – A lot of work