

ICARUS TPC-HV  
Electrical Working Group Meeting

ICARUS AC distribution  
Drift and Wire Bias AC power source

Alberto Braggiotti  
September 19th, 2018



## Current plan:

- HV Drift and T300-1 HV Bias on Transformer 1
  - T300-2 HV Bias on Transformer 2
- 
- All 40 power chords for T300-1 HV Bias PS's are distributed to the PSU's from a single panel powered by a single phase of Transformer 1: Node distribution scheme, no daisy chain, no mesh.
  - All 40 power chords for T300-2 HV Bias PS's are distributed to the PSU's from a single panel powered by a single phase of Transformer 2: Node distribution scheme, no daisy chain, no mesh.

# Constraint:

HV Drift is shared by T300-1 and T300-2



T300-1 HV Bias and T300-2 HV Bias must have a common reference of some kind



A connection of some kind has to be made somewhere between T1 and T2  
to ensure the common reference



**The connection will create the first and only mesh of the entire HV distribution circuit**

A mesh is potentially dangerous as it represents a path for current.

We cannot be sure that the mesh will represent the return path for our signals only. Current from other sources might share the same path.

# Question:

Do you think it would be advisable to power T300-2 HV Bias from the same phase of transformer 1 used to power T300-1 HV Bias, so to maintain a full node distribution scheme (Option B) and avoid a priori the creation of the mesh and consequently the flowing of unknown currents?

