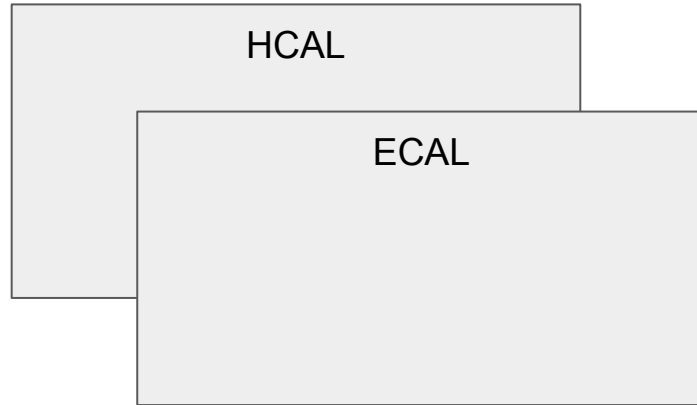# CMS-CEVA Update

- Generated dataset
    - 5 types of jets: RSGraviton_bb_NARROW, RSGraviton_tt_NARROW, RSGraviton_hh_NARROW, RSGraviton_WW_NARROW, ttH_highPt
    - 100 files per type
    - 10000 events per file
    - Total: 5M
    - 1 Image/event
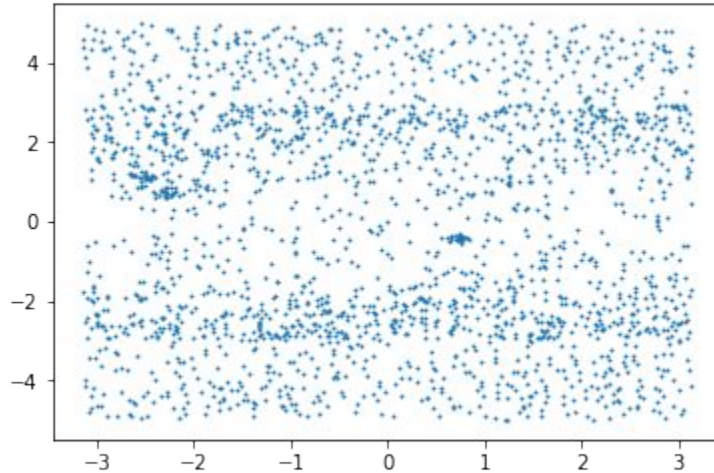   - Few objects per event

CMS-CEVA Update

- Uniform sizes - no need of resizing
- Number of classes: 2 (wide/normal jet)
- Bboxes: 2
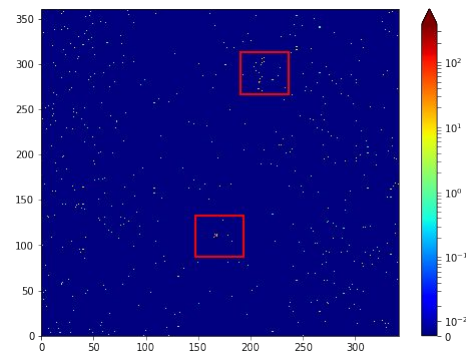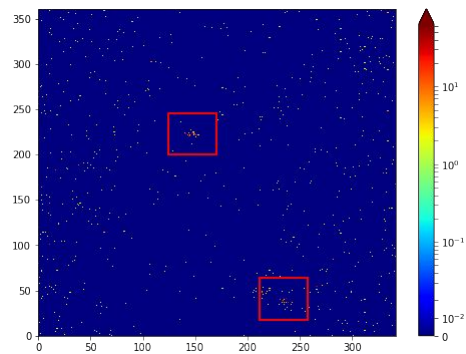- Number of channels: 1 (only ECAL at this point)
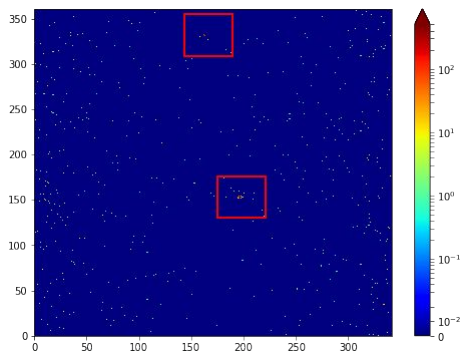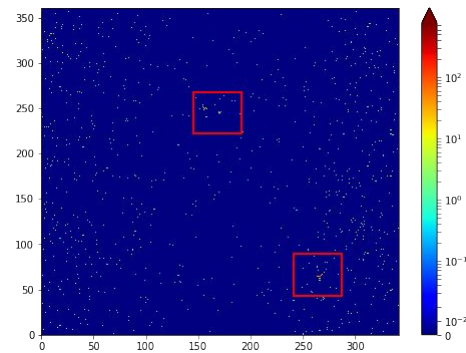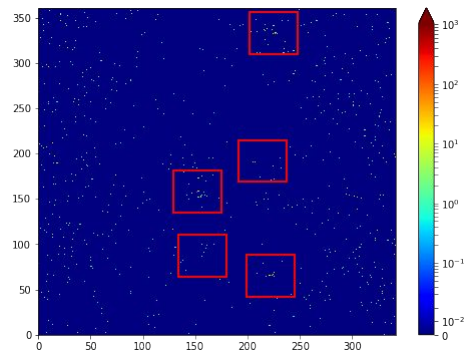
HCAL

ECAL

CMS-CEVA Update

- Problem: Placing of crystals
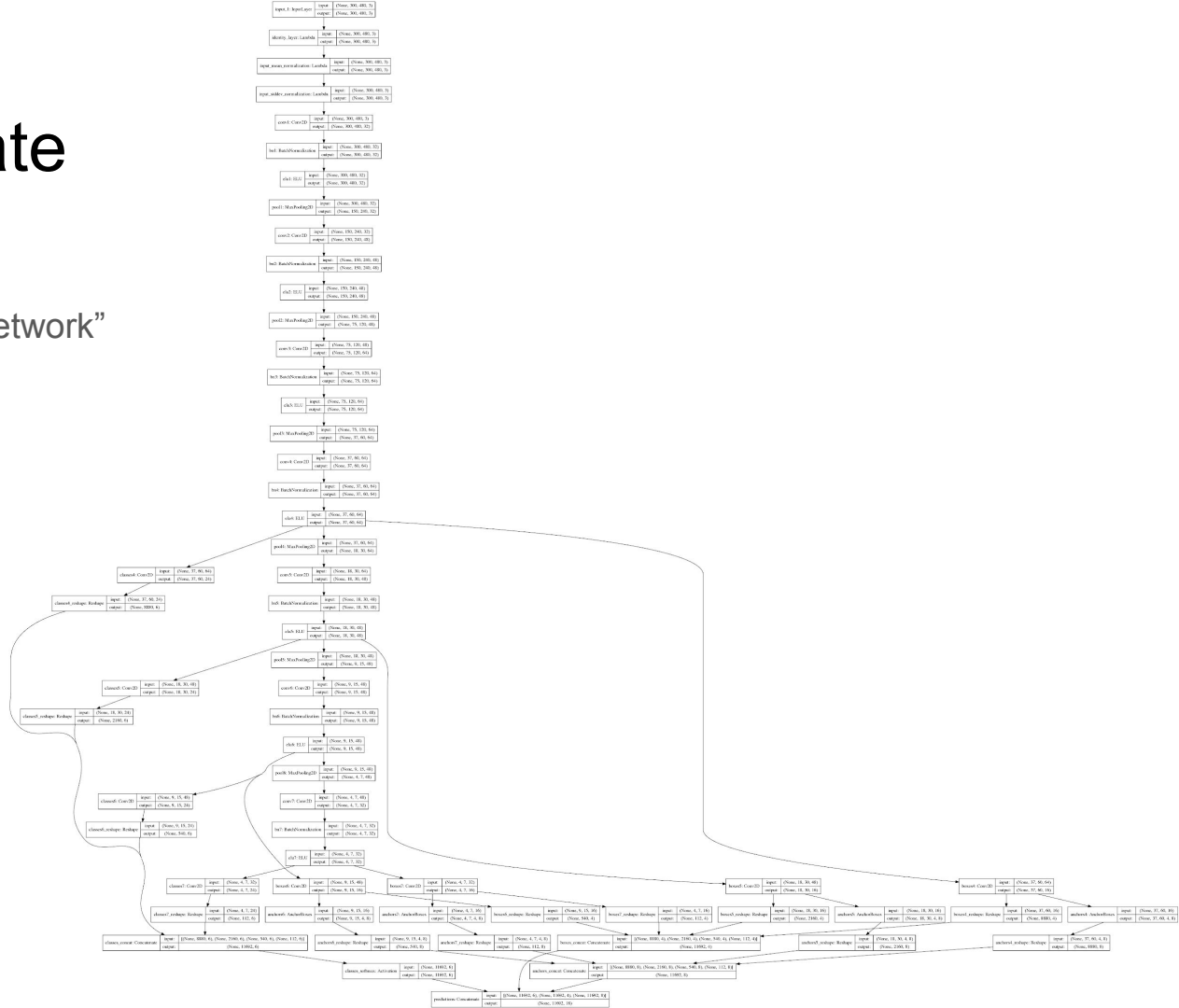- Translation to to pixels (1 crystal = 1 pixel)

CMS-CEVA Update

- Examples:

CMS-CEVA Update

- Architecture
  - Off-the-shelf "Simple network"

CMS-CEVA Update

- SSD Training
  - Takes very long: even with really simple models (CPU: 1 epoch takes ~100min). CPU only for debugging
- Next steps:
  - Train on GPUs
  - A model should ready for a Hackaton (30th Sep).
  - Start working with HLS4ML framework.