Continued Low-lumi + background test. 1

1. Reconstruction of denoised files was VERY slow, ≈ 4.00 *sec*/*evt*.
2. Removed the Central Detector services from the yaml file.
   - Removed services: CVTFP, CTOF, CND, BAND, CVTSP.
   - Reconstruction time dropped to $\approx 1.57 \pm 0.03$ *sec*/*evt*.
3. Chris Dilks (during Software Office Hours) suggested increasing the heap allocation for recon-util. He created a version with twice the heap space (‘`java -Xmx1536m`’ to ‘`java -Xmx3072m`’).
   - Worked interactively on ifarm.
   - Submitted to the farm and it crashed
   - Increased the memory request –mem-per-cpu and it worked.
4. Decided to make COATJAVA version used in this work consistent with version used for Pass 2.

Match COATJAVA version to Pass 2 version. 2

1. Switched COATJAVA version to 10.0.7.
   - Spring, 2019 was cooked with 9.0.1, but no module for it.
   - Reconstruction is unchanged from 9.0.1 to 10.0.7 - RDV.
   - Study relationship between analysis rate and memory request.

Version	Xmx	Xms	⟨event time⟩(ms)
11.1.0	1536	1024	835
cd	1536	1024	799
cd	3072	1024	111
cd	6144	1024	106
cd	6144	2048	111
nice cd	6144	1024	111

Xmx - maximum memory allocation pool for a Java Virtual Machine.
Xms - specifies the initial memory allocation pool.
cd - Modified version of recon-util from Chris Dilks.

2. Version 9.0.1 bg-merger doesn't re-use background files so using version 11.1.1.

Next Steps

1. Continue checking results in initial analysis.
2. Finish scripts for ifarm to analyze complete files.
3. Getting analysis using Lamya's code working.
4. Simulation to study luminosity effects.