

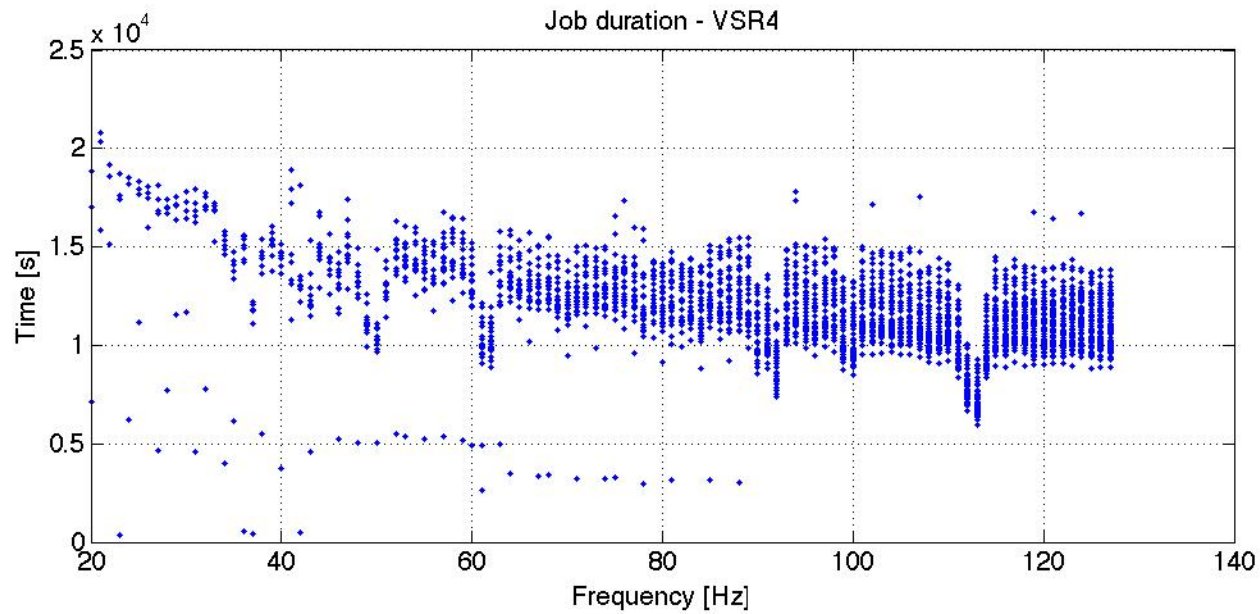
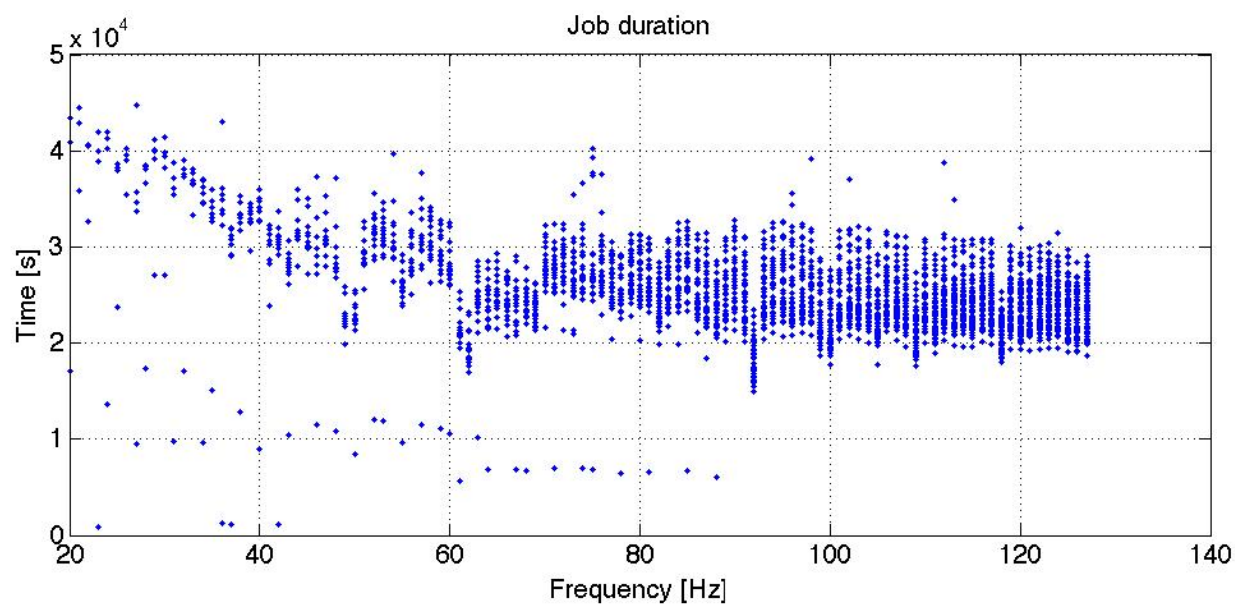
Running Rome all-sky CW search under GRID

- The search pipeline is a Matlab compiled code
 - Documentation: <http://www.roma1.infn.it/rog/astone/doxygenMATLAB/output/html/index.html>
 - Small executable, shipped in the Input Sandbox
 - Big libraries installed in the software areas at CNAF and Rome, reachable by Grid jobs with the same path:
`$(VO_VIRGO_SW_DIR)/matlab/...`
- Input data are the peakmap files
 - Pre-processed and splitted in a number of files, so that each job reads only two files (frequency band and sky region)
 - We are currently running the low-frequency band analysis (20-128Hz)
 - Data preparation takes a few hours on a single machine
 - ~3000 files (ie jobs), ~2.2GB
 - Data set transferred to the CNAF storage and registered in LFC

- Each job reads input files with LCG tools and produces two output files, which are registered on the Grid storage system with the same tools
 - Work in progress

- To create jdl files we have some Python scripts
 - Already presented by Alberto at the 2013-11-25 VDASC call

- A command-line tool has been created to:
 - Submit the jobs
 - Monitor job status
 - Download output files of completed jobs
 - Identify and re-submit failed jobs



~2-3 days to complete the analysis of each run on 100 cores.

- In principle this framework can be used to submit jobs to any Virgo Grid site
 - Need to install Matlab runtime libraries on the software area (currently done manually!)
- High-frequency analysis would be ~100 times heavier (or more, depending on the minimum spin-down age)
 - This would mean 20-30 days to complete VSR2/VSR4 analysis using 1000 cores.