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Explanation of Flow Chart:

- The 4 boxes at the top correspond to the 3 goals identified in B Team on 03/29/05 as pre-requisites for current phase of the Injector matching program[1], and new issues arising from 900 MeV/pass setup and diagnostics problems.
- The red boxes immediately below describe status of each objective and findings coming out of various beam tests during the past 2 months.
- Blue boxes emanating from the above correspond to next step tasks, in response to above findings, in order to conclude each goal. All have Atlis task numbers attached except those explained below.
- Atlis task 3423 was executed tonight. I intend to perform this task the earliest possible as it is critical in deciding the course of the program, and whether a nontrivial detour is in order. This came from the following:
  - Observation on 05/19 that the 100 keV model has deteriorated significantly for all PZT and DC 100 keV difference orbits in the same manner. Barring BPM problem, which is being investigated, this can imply considerable effort needed to re-calibrate the model[2]. Since the orbit on 05/19 was not perfect with invisible B beam in 100 keV, this task will re-examine the model under good orbit.
  - Validation of Capture and Cryo-Unit transport model measured in February. Data taken here will also be used as a necessary-condition check on the Cpature+CU model to make sure it has not deteriorated significantly. As a necessary condition this will not be too elaborate. However any notable discrepancy may imply the need to re-activate an elaborate old Atlis task (2859) to measure the transfer matrix across Capture+CU.

  This task, taking only 20 minutes, therefore occupies a critical place in the entire picture, and was done at the earliest point possible.
- All other tasks identified in the chart are well defined and have been executed in a predictable manner in the past. These are simply waiting for their turn. There are also a few BPM checks that are under way.
- Completion of all goals identified in the chart, via respective Atlis tasks, will lead to the cycle of matching solutions (Atlis 3107 plus offline analysis). The goal is to reach this point before June 20th, which may require generous allocation of MD time. This of course strongly depends on the outcome of data analysis from tonight's MD, as branching into either of the two detours mentioned above would delay the entire process.

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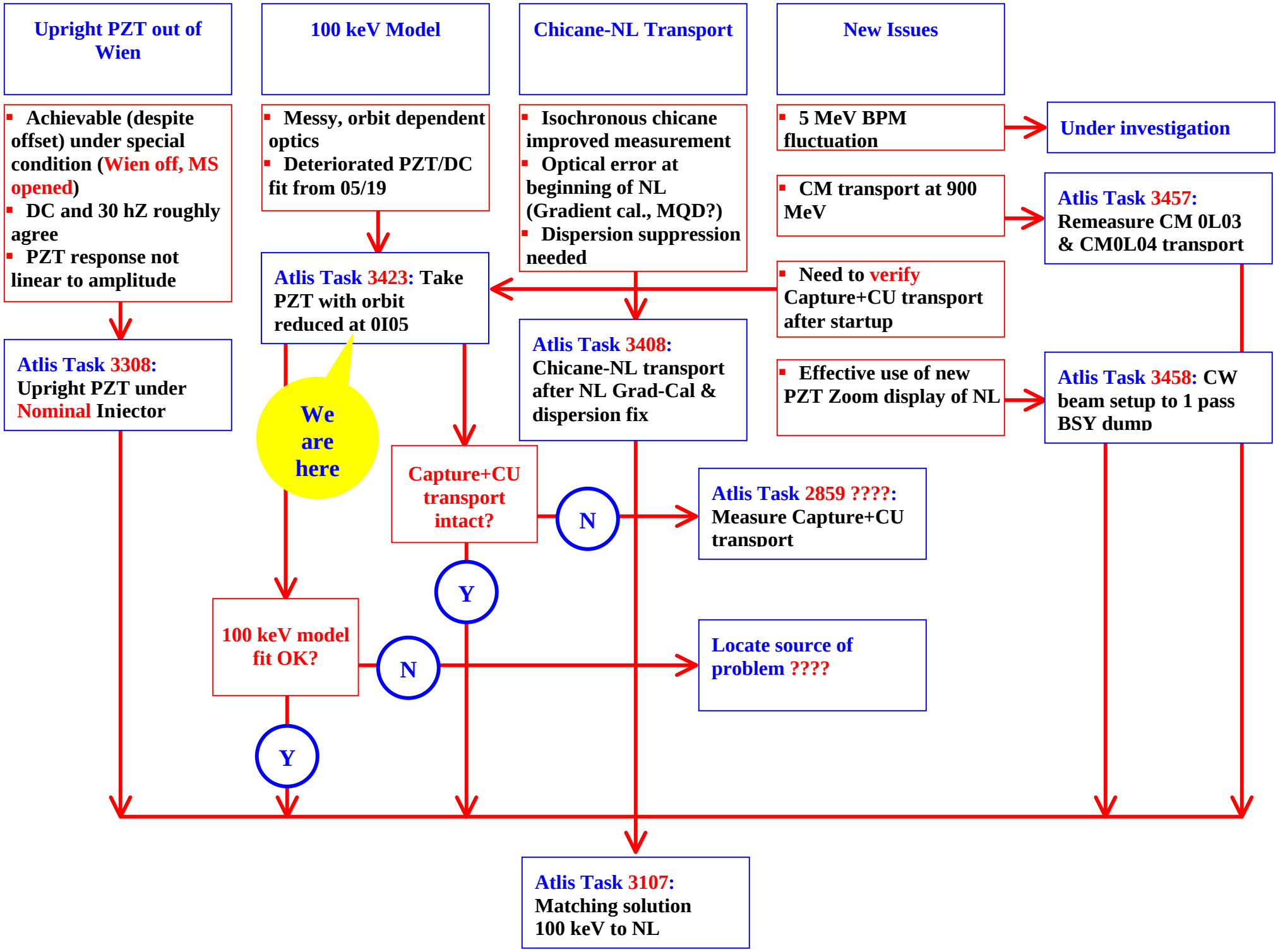
[1] See Mike Spata's B Team Minutes of 03/29/05.

[2] Yves Roblin has been analyzing 100 keV orbits vs model and concluded the orbit dependent behavior was pronounced. However, the 05/19 data was qualitatively worse than those used by him so far.


Upright PZT out of Wien
100 keV Model
Chicane-NL Transport
New Issues
Achievable (despite offset) under special condition (Wien off, MS opened)
DC and 30 hZ roughly agree
PZT response not linear to amplitude
Messy, orbit dependent optics
Deteriorated PZT/DC fit from 05/19
Isochronous chicane improved measurement
Optical error at beginning of NL (Gradient cal., MQD?)
Dispersion suppression needed
5 MeV BPM fluctuation
Under investigation
CM transport at 900 MeV
Atlis Task 3457: Remeasure CM 0L03 & CM0L04 transport
Atlis Task 3423: Take PZT with orbit reduced at 0I05
Need to verify Capture+CU transport after startup
Atlis Task 3308: Upright PZT under Nominal Iniector
We are here
Atlis Task 3408: Chicane-NL transport after NL Grad-Cal & dispersion fix
Effective use of new PZT Zoom display of NL
Atlis Task 3458: CW beam setup to 1 pass BSY dump
Capture+CU transport intact?
N
Atlis Task 2859 ????: Measure Capture+CU transport
Y
100 keV model fit OK?
N
Locate source of problem ????
Y
Atlis Task 3107: Matching solution 100 keV to NL