Update on WIP towards a release

Andrea Valassi (CERN)

Madgraph on GPU development meeting, 6th June 2023
https://indico.cern.ch/event/1292145

New workplan issue

- **I moved the discussion at the last meeting to github**
  - https://github.com/madgraph5/madgraph4gpu/issues/671

- And I closed the previous "December 2022 workplan"

Multiple subprocesses (P1, P2..)

- This is a new issue that came up in the last two weeks

- *#667, different npar in P1 and P2 directories*
  - similar to previous issue with different nwf in different P1 directories

Status: now completed

Relocatable builds

- *#613, builds must be relocatable*
  - embed common random numbers in the process generated (WIP Zenny)
  - embed google test (or define an env variable to find it?)

Status: now completed

Port post-generation patches upstream

- *#656, get rid of the patchMad.sh script*
  - remove patch.P1 and patch.common
  - generate coloramps.h directly rather than from coloramps.inc? (or do it in the plugin)

Status: WIP
  - new strategy: embed modified Fortran files (Makefile, driver.f etc.) in the plugin
  - old strategy (eventually do that anyway?): modify Makefile, driver.f etc upstream
  - advantage: much faster, complete freedom (no need to work about breaking upstream)
  - limitation of the new strategy: only works for specific upstream versions
    - will include a cross-check, and some internal tools to update the plugin when needed

"launch" integration

- Encompasses many issues discussed at the last meeting

Status: WIP, done some bits of build cleanup, more todo...

SM process-specific functional issues

- *WIP: #628, wrong type argument to unary minus in gq_ttllq (SM)*
  - FFV calls should not have "-COUP" parameters as COUP is a pointer not a value
    - discussed a solution with Olivier (disable an optimization, keep two arrays for +COUP and -COUP)
    - need to understand how to make the solution portable (disable the optimization only if needed)
  - also affects BSM processes like SUSY gg_tt

Status: WIP but no progress since the last meeting (focused on other things)