



Oops, cycles !

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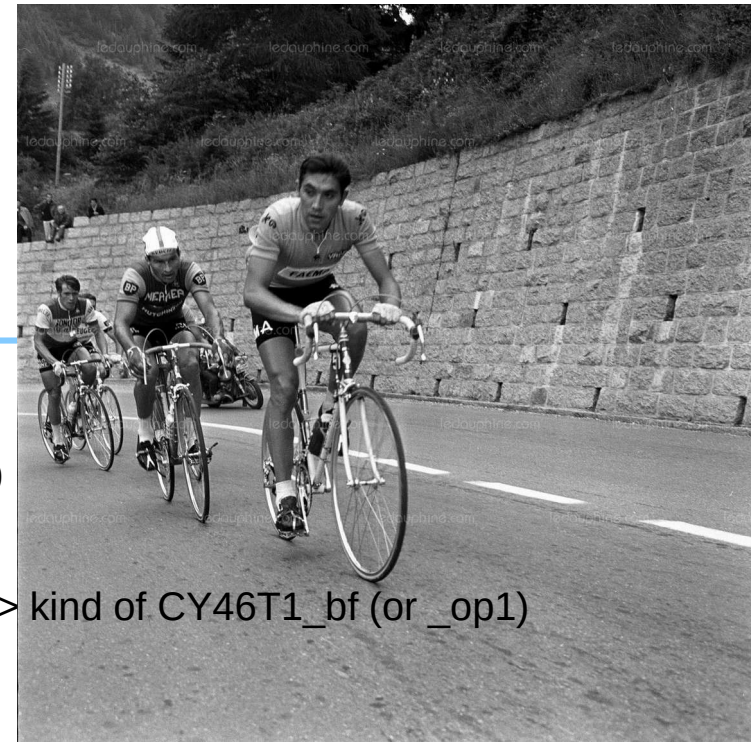
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Joint ALADIN/HIRLAM All Staff Meeting, Madrid

Outline of my talk

1. R&D cycles, link with MF e-suites, link with export versions
2. Technical validation : tools and methods
3. OOPS overview
4. Outlook towards major code changes after OOPS
5. A brief about « climake »

Latest R&D cycles and plans

- **CY46** : 10 April 2018
- **CY46T1** : started end of Sept 2018 – declared on 28 February 2019
 - Content : refer to LTM doc or MF Tech'memo
 - we'll need an update for wrapping-up MF late e-suite changes => kind of CY46T1_bf (or _op1)
- **CY47** : March-May 2019 (now on track with ECMWF)
 - Robust base version for OOPS ? => not fully !
- **CY47T1** : autumn 2019 but precise timing and content will depend on final decision about CY48
- **CY48** : timing still open and pending decisions both in MF and in EC :
 - Choice and installation of next HPC in both centres (plus move to Bologna of EC data centre)
 - Strong wish not to let more than 1 year between two joint cycles
 - 2 scenarios under discussion :
 - ▶ « early CY48 » : start build in December 2019 and declare by February 2020
 - ▶ « late CY48 » : start in Feb'2020 and declare by May'2020 (i.e. about 1 year after CY47)
 - ▶ « early » is for the time being the preferred scenario => **would mean CY47T1 must be quick and small !! (mid October – November 2019) and content focus on missing features from CY46T1, OOPS updates for Arpege and LAMs, optimization and porting features, with all this stuff validated on top of CY47 by end of September 2019 !**



MF e-suite versions ; ALADIN export versions shared with HIRLAM

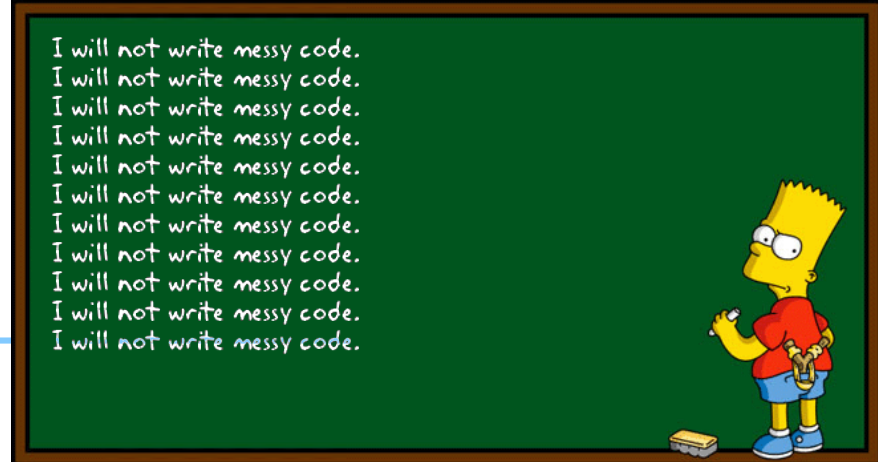
- MF code versions :
 - CY42_op2 : operational since 5 December 2017
 - CY42_op3 : for Arôme EDA (AEARO), operational since 10 July 2018
 - CY43T2_op1 : MF 2018 e-suite for Arpège T1798C2.2 => operational switch expected for beginning of June 2019
- ALADIN export versions / HIRLAM shared versions :
 - CY40T1_bf.07 : released 24 April 2017
 - CY43T2_bf.09 : released September 2018
 - CY43T2_bf.10 : released 27 February 2019
- Note : all FLUBs (technical memoranda) of recent cycles, minutes from IFS/Arpège coordination meetings and technical videoconferences (incl. OOPS) are available at <http://www.umr-cnrm.fr/aladin/> (note that some pages are pwd-protected)

Update on mitrailleuse in one slide (Harold Petithomme, A. Mary, P. Saez)



- Reminder : all namelists and protojobs now available in MF's GIT GCO repository
- Latest versions :
 - V102017 : CY45T1
 - V042018 : CY46
 - V122018 : CY46T1
- Tools in order to help get a complete and user-friendly overview of the many test results :
 - Checkpack.py, ciboulette.py
- Proposal about evolution of concepts and tools for validation :
 - Refer to Alexandre's talk in this session !

OOPS overview



- At Project level – timing at ECMWF :
 - The EC OOPS Project has been formally closed in June 2018
 - OOPS status is now being discussed in the IFS/Arpège regular meetings
- FORTRAN code re-factoring status :
 - Yet not all OOPS-IFS are fully working or were tested (Jc-DFI, screening, CDA, etc.)
 - Nevertheless, EC test OOPS objects in any new code version
 - Some concrete outcome where OOPS work materializes in new facilities : conf 903 (see talk by Martina), testing components of DA at a very early stage of a new cycle **and in parallel to the forecast models tests**
- Plans at MF in 2019 – 2020 :
 - OOPS objects are now being tested with new Toulouse cycles : obs operator (direct, TL/AD) for any given obs type, forecast model, Full-POS (all in global geometry for now) => *started with CY46T1 !*
 - Specific aspects : trajectory for Arpège 4D-VAR (simplified physics), etc.
- Open issues : DFI (LAM partners?), LAM tests (in collaboration with MF)

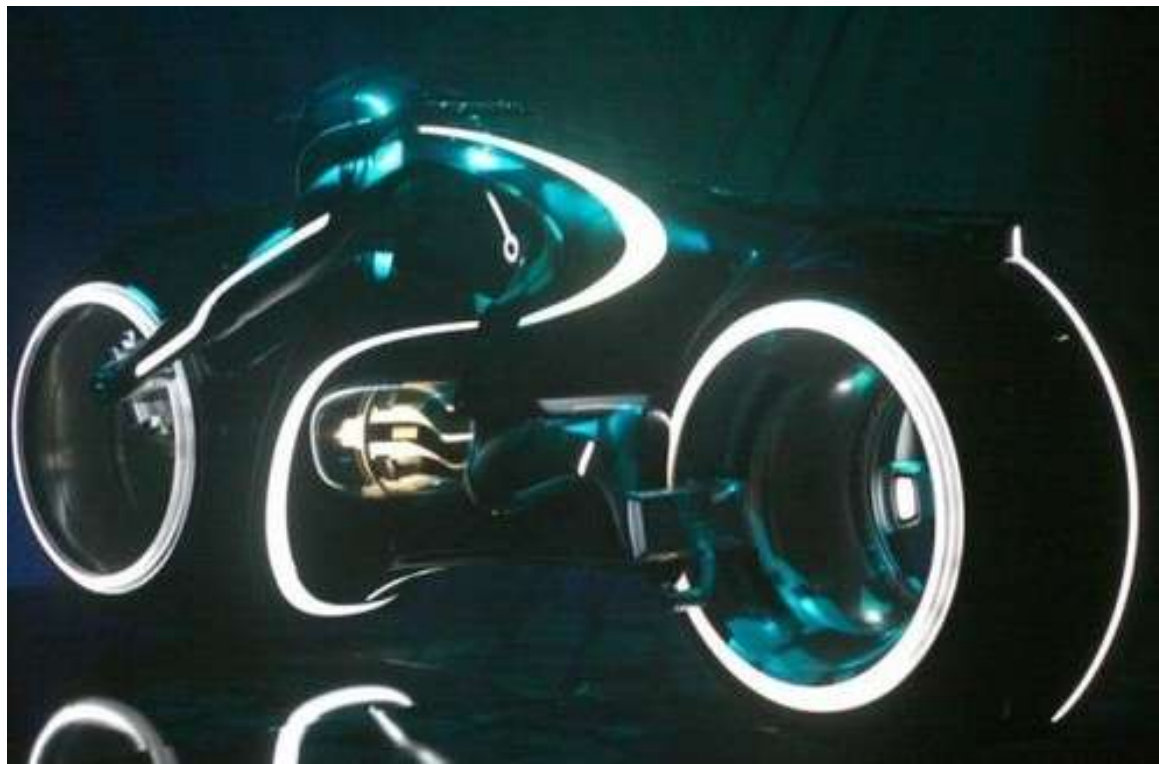
Code training days

- When : 9-12 September 2019 (possibly debrief on Fri 13/09)
- Where : Toulouse, CIC/MF
- Who : attendees are supposed to already fairly well know the IFS/Arpège/LAM codes
- What : code aspects after the major OOPS steps (CY46), optimization, some hints about single precision, a few practical exercises, some free time slots for self-chosen dedicated work
- How : tutorials + exercises on laptops



Outlook towards major code changes after OOPS

- OOPS-ification of the IFS codes will continue, but more slowly (CY48)
- Plans in preparation by EC : towards a generalized flexible `FIELDS_CONTAINER` for all model data ; interface level in Fortran for using FVM components, for using ATLAS components ; roadmap in preparation for porting codes on GPUs (for benchmark purposes)



Renovated scripting procedures for creating PGD/clim files : « climake »

- Updated the old scripts and first set of modernization (Suzana Panezic with Alexandre and Florian)
- Renovated Unix-based scripts (inspired by the OLIVE confs in MF)
- Proposal for a new management of the scripts, their input resources and their output data (Florian Suzat, new contact person in GMAP) : a bit more historical traceback, a bit more collaborative share of information and maintenance
- Now being tested by Aladin teams (SHMU/ACNA, Croatia)



Gracias por su atención !

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<http://www.umr-cnrm.fr/aladin/> - ALADIN website hosted at CNRM site.