Session A summary

Session I

What we agreed upon :

1. What the release will contain (EIRENE_unified branch) and when it comes out – early 2023.
2. That everybody uses the FZJ git repository for development
3. To use downstream branches of develop for fluid code specific ongoing developments.
4. To set up a comity with one representative of every downstream branches (SOLPS, SOLEGDE, EDGE2D, UEDGE, EMC3) to review merge requests into the develop branch and ensure compliance with the Developer Code of Conduct.

Still to be agreed upon

1. How to give access to the releases of the code to the full user community (FZJ cannot provide access to gitlab to large user community). Thus an option to get feedback from users to be explored is the use of an external bug tracker (such as BugZilla, RedMine, …)
2. What exactly do we provide to users (a snapshot of the master branch + develop branch as a beta version ?) under the licence (still to be finalized).

Session II & III : adressing the main features hindering readability and maintainability

1. **First steps after the upcoming (pivotal) release is out :** take this opportunity to make wide ranging changes, which will complicate comparisons to previous versions, but which will provide much benefit in the future. This includes the **switch from fixed to free format** and the application of an **homogeneous coding style** through a Fortran linter. The **ultimate goal** is to move towards a model relying on pure functions (**no side effects**) with the corresponding **unit tests**. This cannot be achieved in one step given the current state of the code.
2. **Streamline the A&M physics internal bookkeeping** by merging MODCOL and MODCLF into REACDAT (see summary by Jorge). A large number of combinations has to be tested, requires one or more specific CI cases.
3. **Streamline the particle tracing routines**, starting from folneut, and carry out the variable grouping to construct a particle type [AMU].
4. Implement the **parallel version of rate coefficients calculation** (in particular CRM) into the unified branch [AMU].
5. Design and implement **an unified unstructured grid description** (2 options would be left : this one and the arbitrary cell option used e.g. by EMC3) [PB/…]
6. Investigate the **possibility to optimise memory access for scoring**, design an improved scheme and implement it [PB + ACH, AMU]
7. Resuscitate the **radiation transport option** [Ray/Aalto]
8. **Release tagging protocol** : typically one release after each of the bullets is implemented, introduce major version and minor & major patches.