CRIBE

EURISOL Town Meeting
Pise, 2nd July 2018
Nicolas Ménard

Plan

- **Introduction**
  - ✓What is CRIBE, Team and Participants
- **Historical review of developments**
  - ✓From chartbeams (2016) to CRIBE (2018) through ECOS
- **Focus on CRIBE**

CRIBE

- **CRIBE : Chart of Radioactive Ion Beams from Europe**
- **Two objectives**
  - ✓Collecting data from partner facilities and gather it to a uniform database
  - ✓Developing a web service providing a chart of ion beams from the database
- **Facilities :**
  - ✓S3-GANIL, SPIRAL1-GANIL, ALTO-IPNOrsay, ISOLDE-CERN, SPES-LNL, JYFL

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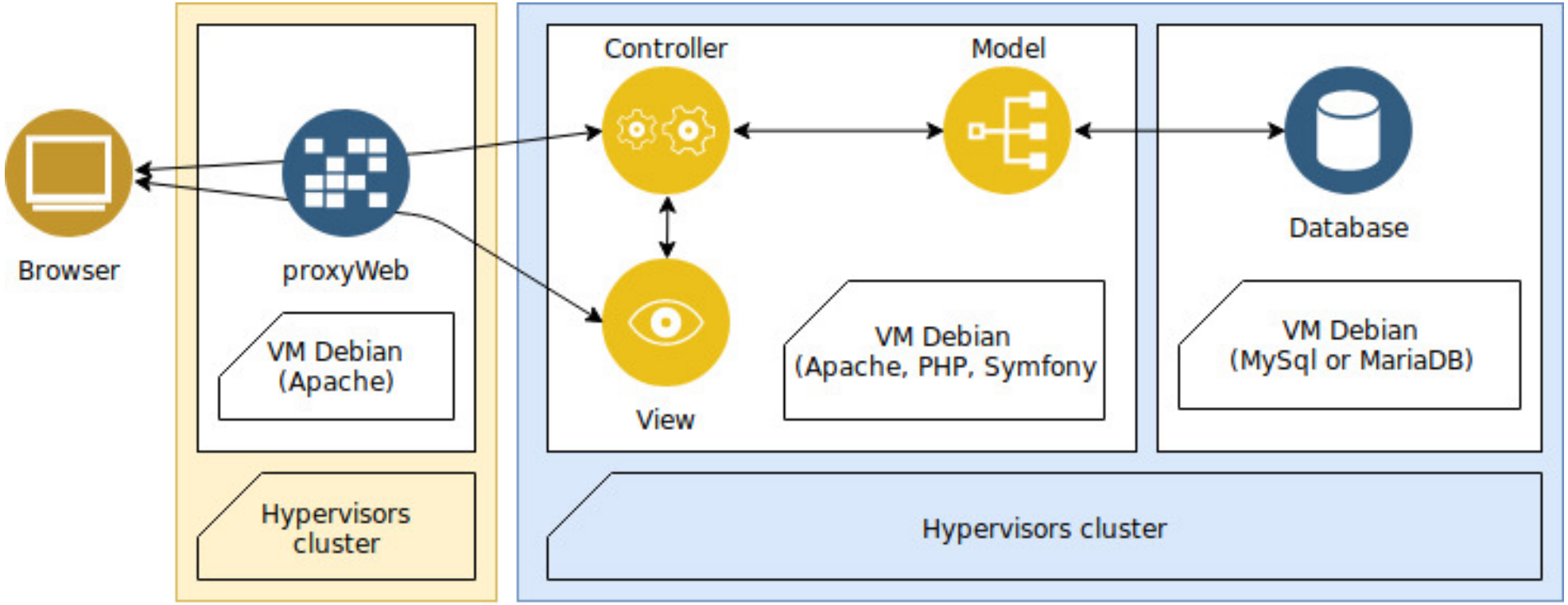
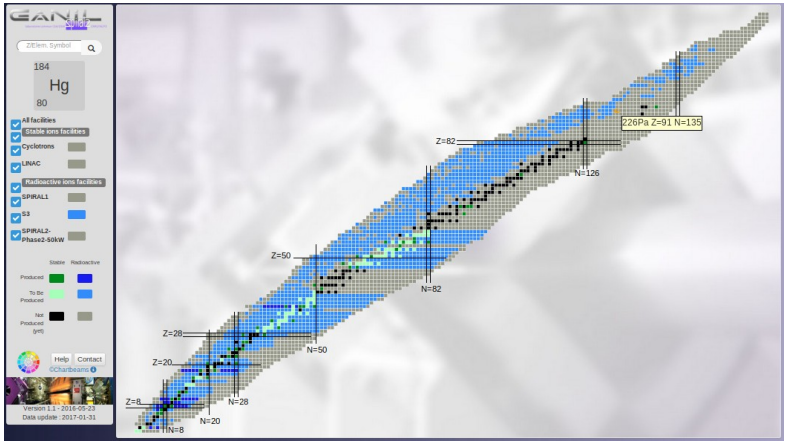
- **The team :**
  - Manssour Fadil (GANIL/Caen) : coordination
  - Laurent Fortin (GANIL/Caen) : lead developer, technical support
  - Marek Lewitowicz (GANIL/Caen) : coordination monitoring
  - Nicolas Ménard (GANIL/Caen) :technical and development monitoring
  - Mateusz Celary (IFJ-PAN/Krakow) : development
  - Yohann Jacquier (Normandy University/Caen) : development
  - AppliCaen (ENSICAEN/Caen) : development
  - Paul Jourdan (Normandy University/Caen) : study and analyzis
  - Pierre-Marie Briéda (Normandy University/Caen) : specifications

To keep in mind : Architecture



Chartbeams

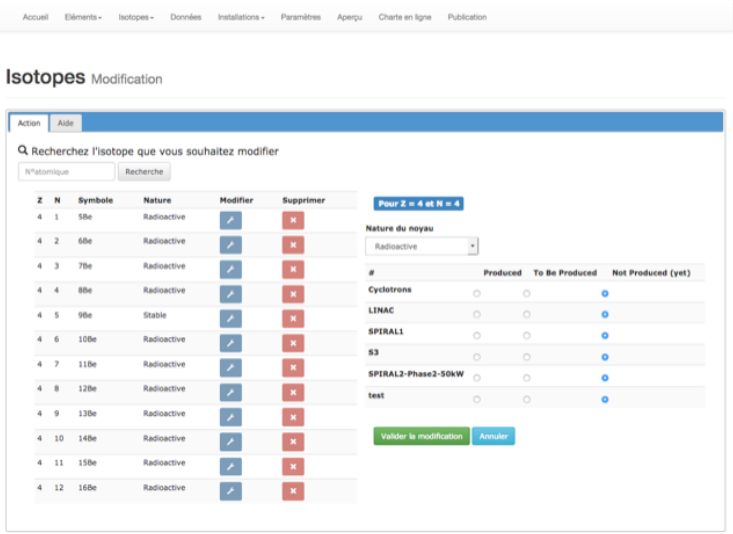
- **Chart of produced or potentialy produced ion beams in GANIL facilities**
  - Filtered by :
    - Stable ions : Cyclotrons, LINAC
    - Radioactive ions : SPIRAL1, S3 and SPIRAL2-Phase2
  - Provide detailed data (PDF file)



- **Development**
  - First version in 2011 followed by a major upgrade in 2016 (Jacques Everwin – Normandy University)
- **Technologies in use :**
  - LAMP : Linux, Apache, MySql, PHP
  - MVC : model (data) – view (interface) - controller (logical part)
  - HTML, CSS, JavaScript,
  - Virtualization Proxmox

Chartbeams

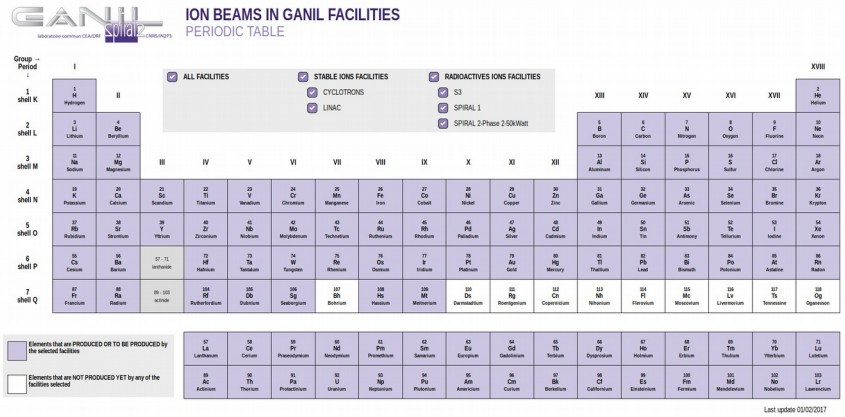
- **Administration tool**
  - For authenticated user only, one account for GANIL
  - Adding or modifying an element
  - Adding and updating available colors
  - Advanced search tool
  - Adding and modifiyng items of the menu
  - Adding and replacing data file per element (not per isotop)



  - Adding and udating (show in the web service, mail, url of website, etc.) installation
  - Vizualisation and modification of isotops : produced, to be produced, not produced for each facility
  - Publication in two phases :
    - modification of an intermediate table of the database
    - after validation updates are published

Chartbeams – Mendeleiev Extension (2018)

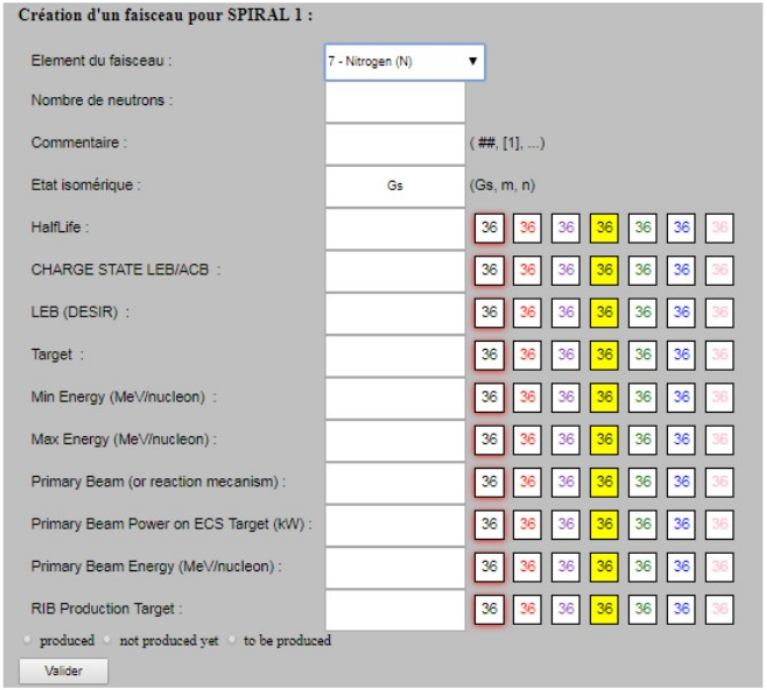
- **Goal and Development**
  - ✓Providing a periodic table view of chartbeams
  - ✓Using the data in the bdd to generate the detailed view of an element and the PDF
  - ✓linking the web service to the existing chart
  - ✓This year by Yohann Jacquier (intern from Normandy University)



- **Technologies**
  - ✓LAMP (Linux, Apache2, MariaDB, PHP), Symfony (Doctrine, TWIG) version 3.2, Javascript, HTML, CSS

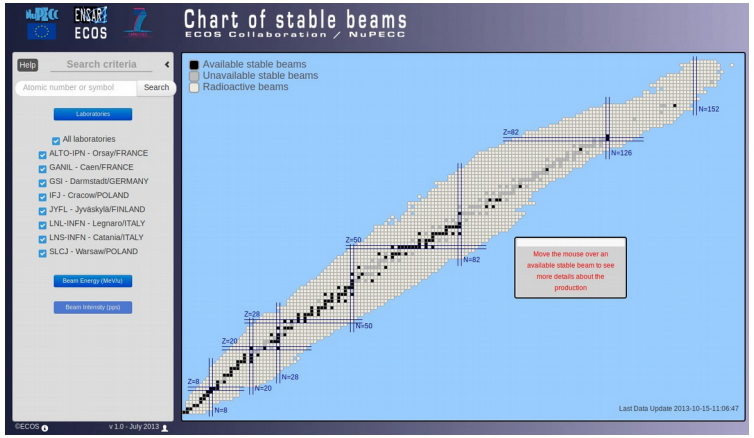
Chartbeams – Mendeleiev Extension

- **Adminstration tool**
  - An authenticate adminstrator can :
    - Modify the data in the database for each facility
    - Modify the facilties
    - Modify the attributes of facilities and elements
    - Add a new beam for an element and a facilty
  - Usefull search tool
- **Still to do :**
  - Connection between chartbeam N-Z and Mendeleiev
  - Adding publication phase
  - Update to Symfony framework



ECOS
(European Collaboration on High Intensity Stable Beams)

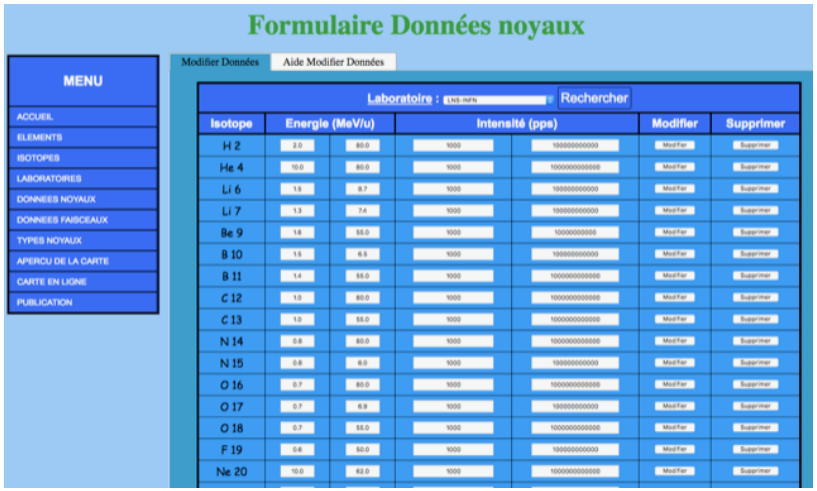
- **Chart of currently available and/or future stable ion beams from facilities in Europe**
  - Filtered by facilities :
    - ALTO/IPN, GANIL, GSI, IFJ, JYFL, LNL-INFN, LNLS-INFN, SLCJ
  - Filtered and colored by beam energy and/or beam intensity



- **Development**
  - In 2013 by Laurent Fortin and Jason Stum (intern from Normandy University)
- **Technologies in use :**
  - LAMP : Linux, Apache, MySql, PHP
  - MVC : model (data) – view (interface) - controller (logical part)
  - HTML, CSS, JavaScript,
  - Virtualization Proxmox

ECOS

- **Administration tool**
  - No authentication but restricted access
  - Adding and modifying lab, element, isotops
  - Few data are in the database : energy and intensity
  - Adding and associate a PDF file per lab and element
  - Publication in two phases :
    - update of an intermediate table of the database
    - after validation updates are published

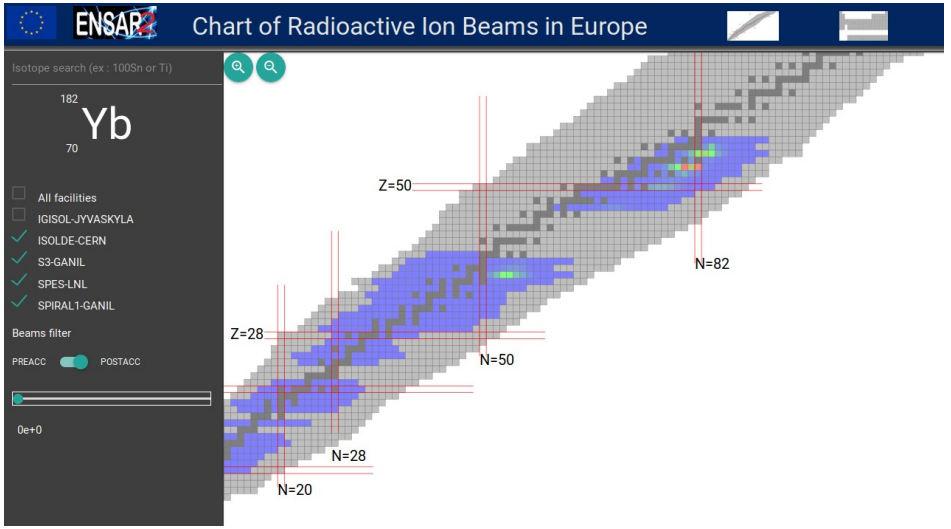


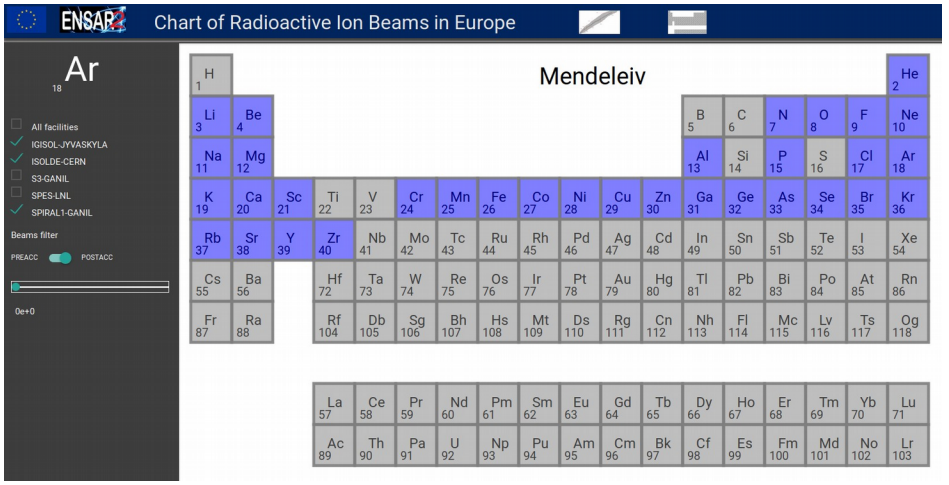
CRIBE – focus – Development phases

- 06/2017 :
  - Analysis and study : extracting good ideas, finding what is missing in previous chart, etc.
- 09/2017 : Decision is taken to ask for the support of an web agency for the first part of the development
  - Redaction of technical and functionnal specifications
  - Search for the contractor
  - Finally @ppliCaen from ENSICAEN is choosen
- 30/10/2017 : launch meeting with the service provider
  - 4 students will work on our project
  - several meetings will take place between november 2017 and march 2018
- From march 2018 to july 2018
  - despite several reminders and the support from GANIL, the result is not good enough to start in production
  - thanks to Mateucz : several corrections and improvments : zoom, administration tool, data management, ISOLDE connexion, etc.
  - but … still need to be improve : visual aspect, zoom, velocity, administration tool, data management, etc.

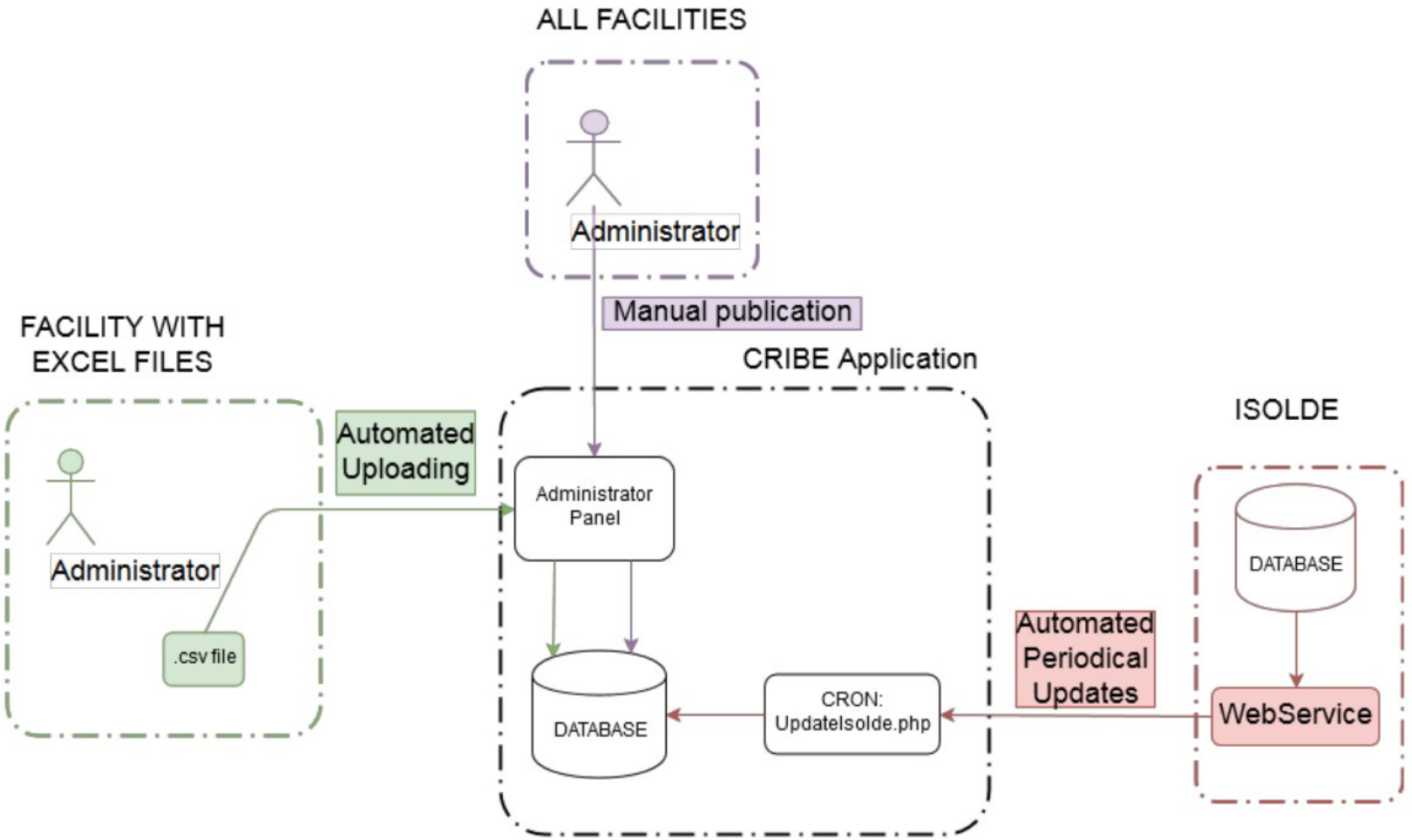
CRIBE - Focus

- **Functionnalities**
  - ✓Chart view and Mendeleiev view
  - ✓All data are in the database => dynamic request
- **Technologies**
  - ✓LAMP (Linux, Apache, MariaDB, PHP), virtualization (Proxmox), Symfony framework (3.4 with Doctrine, Twig, etc.), CSS, XML, XSD, JSON





CRIBE - Focus



(Thanks to M. Celary)

CRIBE - Focus

- **Data**
  - First set of data supplied in Excel files by:SPES, IGISOL (Fibland), GANIL for SPIRAL1 and S3
  - Data from ISOLDE supplied by a web service
  - Format validated by all the participants
- **Classification**
  - Four categpries
    - A : measure in experiment
    - B : extrapolated from experiment data
    - C : measurement scaled by transmission
    - D : calculated

CRIBE – Focus

- **Unified data**

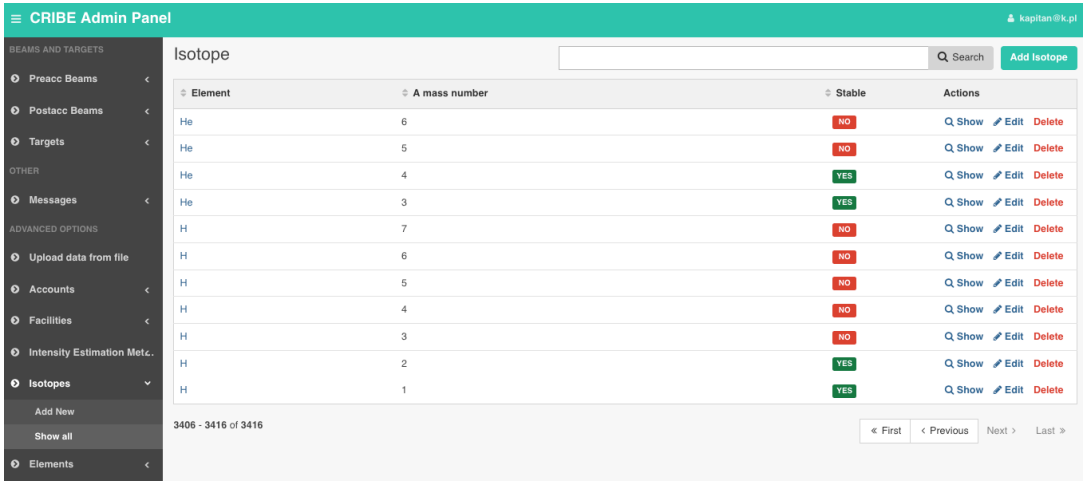
Z	A	Metastability	Half-life	Intensity [pps]	Intensity estimation method	Purity	Primary beam	Primary beam intensity [pps]	Target	Availability	Comments/ Link to details
(INT)	(INT)	(STRING)	(STRING)	(INT)	(STRING)	(INT)	(STRING)	(INT)	(STRING)	(STRING)	(STRING)
1	1	g	999.9s	9,99E+02	[A]	99.9	xyz	9,99E+02	xyz	2019	www.eg.com
2	2	x	< 3E+04h	9,99	[B]	99,9	xyz	9,99	xyz	2020	xyz
3	3	m	?	9.99	[C]	9	xyz	9.99	xyz	available	xyz
4	4	m1	xyz	9.99E-9	[D]		xyz	9.99E-9	xyz	2017	xyz

- **Compiled data**

Z	A	Metastability	Half-life	Intensity [pps]	Intensity estimation method	Purity	Primary beam	Primary beam intensity [pps]	Target	Availability	Comments/ Link to details
2	6	g	0.8 s	2E+08	[A]		13C	1,6E+13	Carbon	2017	https://u.ganil-spiral2.eu/chartbeams/
2	6	g	0.8 s	2,5 E+6	[A]		13C	1,6E+13	Carbon	2017	https://u.ganil-spiral2.eu/chartbeams/
2	6	g	0.8 s	15642541	[D]		13C	7,69E+12	Carbon	2019	https://u.ganil-spiral2.eu/chartbeams/
2	6	g	0.8 s	9385525	[D]		16O	4,93E+12	Carbon	2019	https://u.ganil-spiral2.eu/chartbeams/

CRIBE – Focus

- **Administration tool :**
  - ✓For authenticate user only
  - ✓Advanced search tool
  - ✓Upload data from file
  - ✓Add beams (postAcc or preAcc), target (associate to facility), isotops, elements, facilities
  - ✓Manage user account
    - ◦Depending of the level access of the user and the associated facilities
    - ◦Global administrator → EasyAdmin and Upload Panel : full access
    - ◦Facility administrator → Upload Panel : access to selected facilities



CRIBE – Focus

- **Coming next year :**
  - ✓Unify in a single application all the development already made
  - ✓Improve the data insertion and update for both methods (file and web service)
  - ✓Improve the interface (CSS) and the adminstration tool (auto generated)
  - ✓Add duplication and update data in EasyAdmin interface
  - ✓Improve search option in EasyAdmin interface
  - ✓Add search option and delete button in Upload Panel
  - ✓Fix the instability of the Apache Service
  - ✓Deep tests of all the functionalities