WELCOME TO SOLEIL

Amor Nadji

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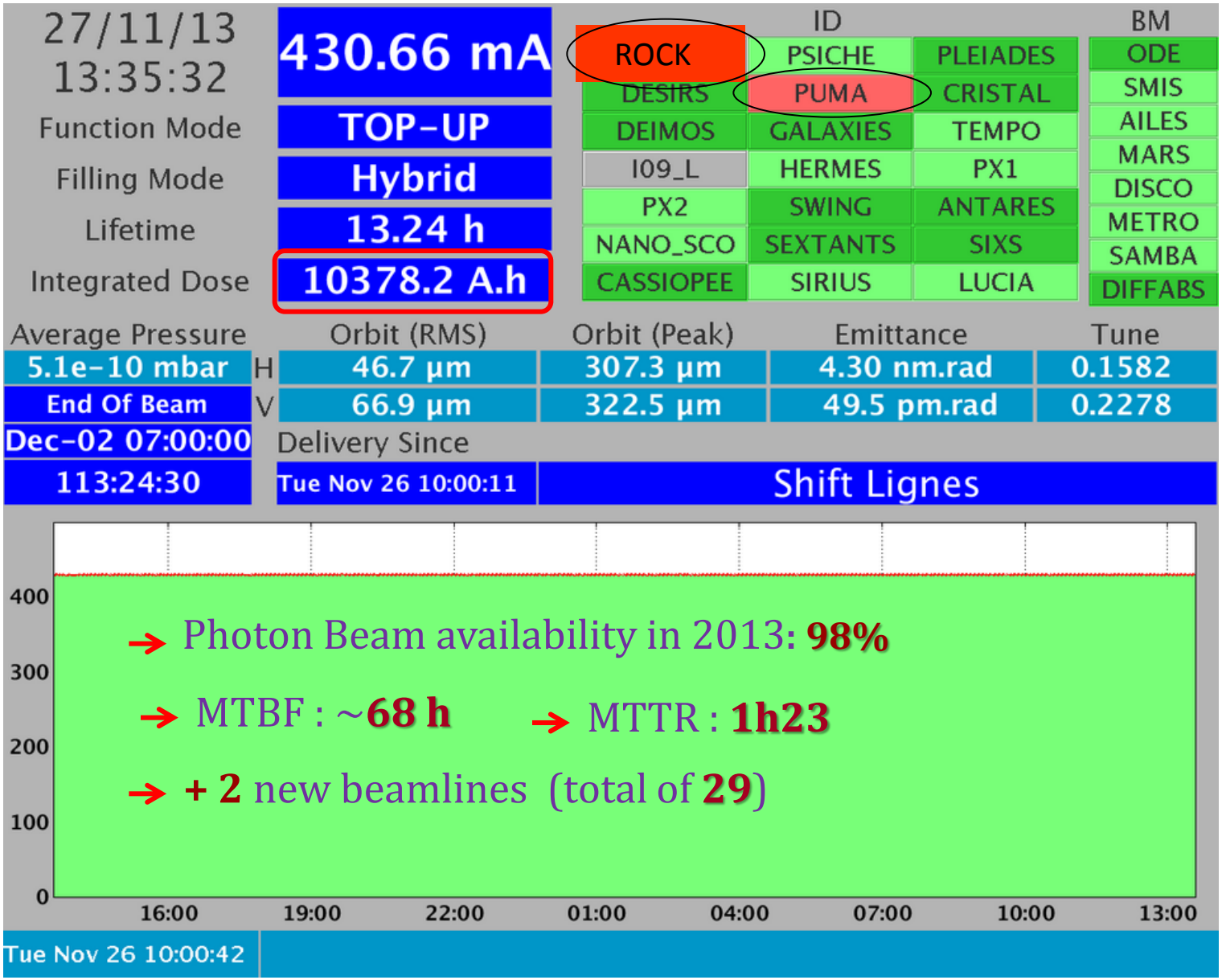
OPERATION in 2013



→ Photon Beam availability in 2013: **98%**

→ MTBF : ~**68 h** → MTTR : **1h23**

→ **+ 2** new beamlines (total of **29**)

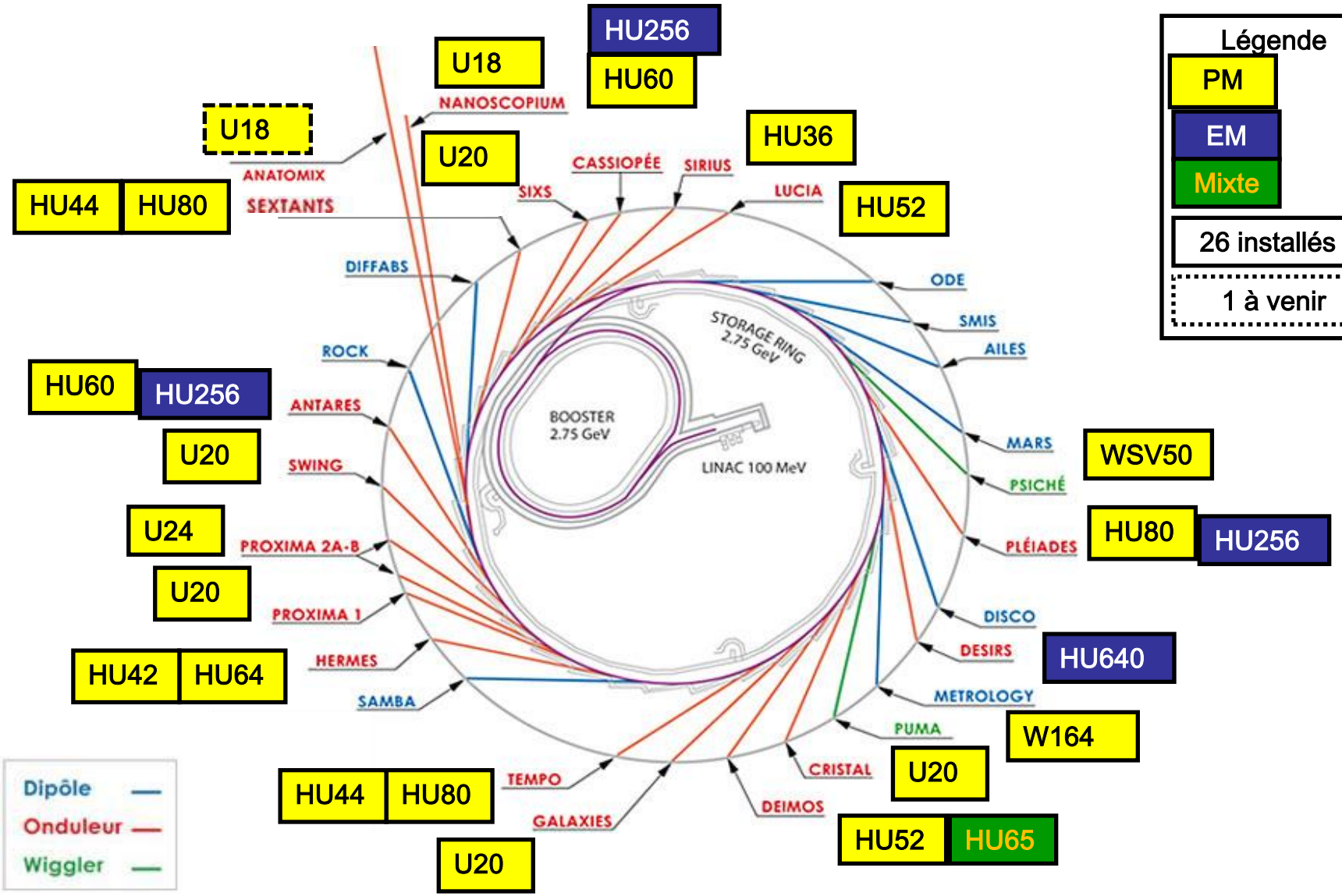
5 Modes of Operation for the Users

All in Top-up injection

Mode of operation	User Operation in 2013	Ultimate performance achieved
Multibunch	430 mA	500 mA
Hybrid	425 mA + 5 mA	425 mA + 10 mA
8 bunch	88 mA	110 mA
1 bunch	15 mA	20 mA
Low α: bunch length and current	4.7 ps RMS and 65 μA per bunch	< 8 ps FWHM and 10 μA per bunch

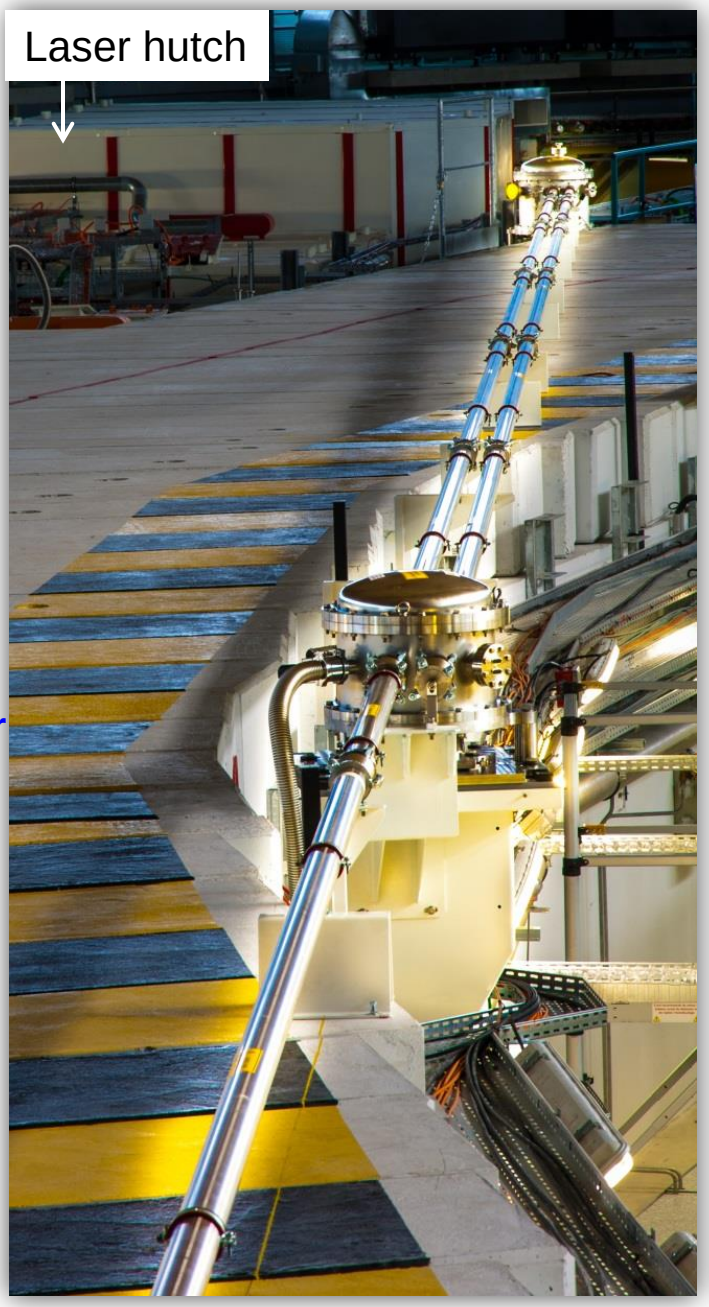
5 feedbacks simultaneously in operation: TFB, SOFB, FOFB, BTUNE-FB, Coupling-FB

26 Very Diverse Insertion Devices are installed



FEMTOSLICING UNDER COMMISSIONING

- **100 – 200 fs FWHM**
- **Soft X (Tempo) and Hard X-ray (Cristal)**
- **Commissioning with beam will start by January 24th.**
- **Laser at the modulator location**



- Collective effects phenomena occurring in synchrotron radiation sources include:

  Beam instabilities
  Lifetime-limiting effects
  Ion effects

- Strongly influence the quality of synchrotron radiation delivered to the users.

- In view of the high costs in constructing a synchrotron radiation facility, a reduction of the beam quality due to collective effects is not acceptable.

- Countermeasures have to be considered at an early stage of the machine design.

- In future ring-based light sources (DLSR), the combination of ultra low emittance, high current and narrow chambers will mean that collective effects will be important!