

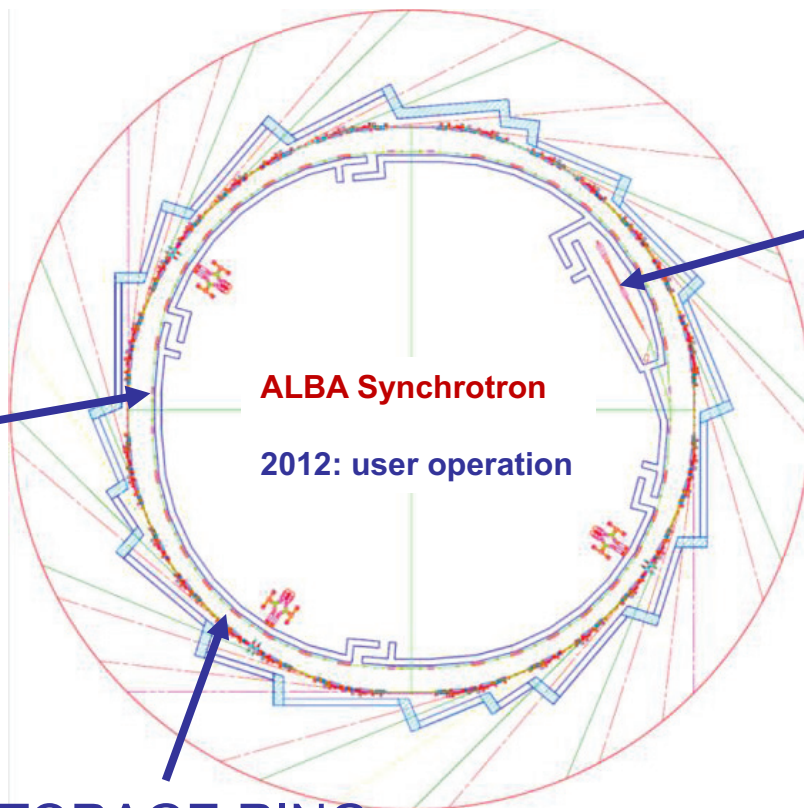
Status and Operation of the ALBA Linac

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BOOSTER
100 MeV – 3 GeV

SR Parameter	Value
Energy	3 GeV
Circumference	269 m
Emittance	4.4 n mrad
Current	250 mA
Rf frequency	500 MHz
# cavities	6
Long straights	4 (8 m)
Short straights	12 (4 m)



STORAGE RING
100 MeV – 3 GeV



LINAC 100 MeV

The Linac:

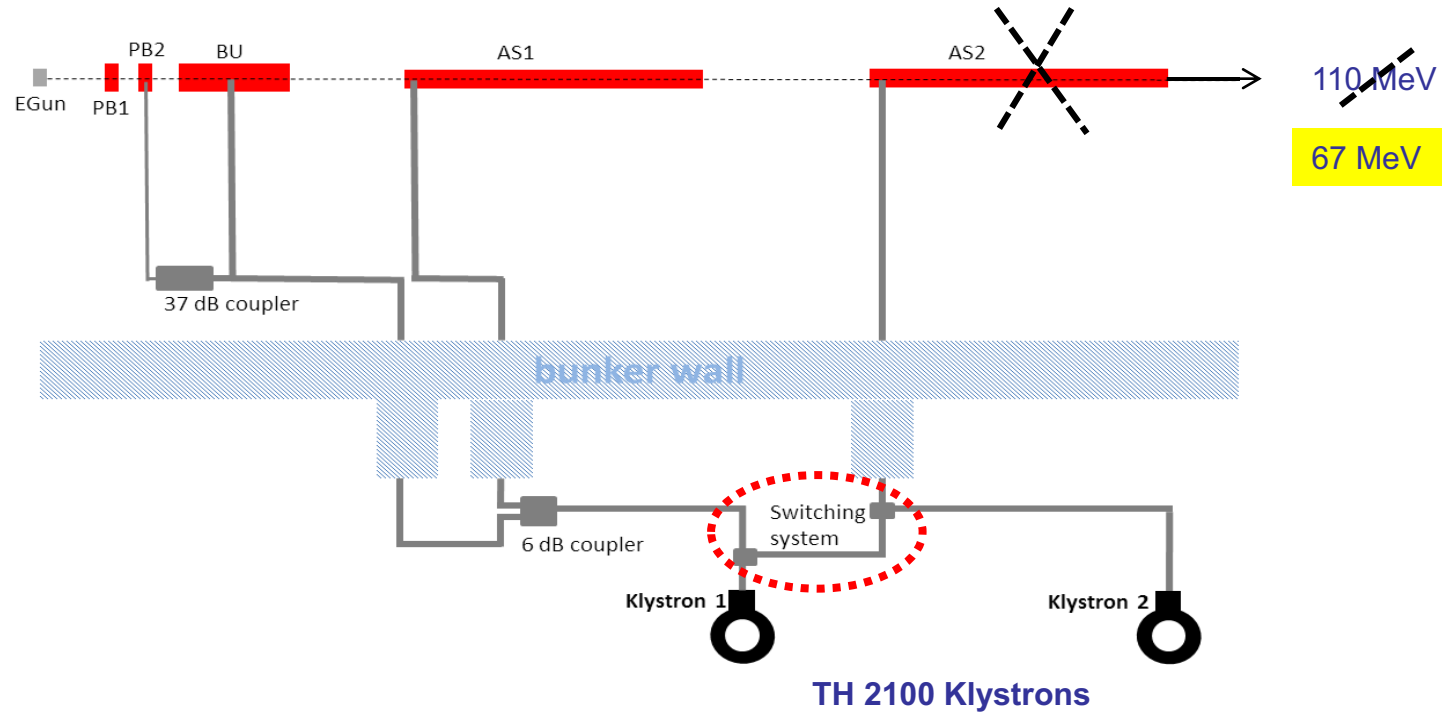
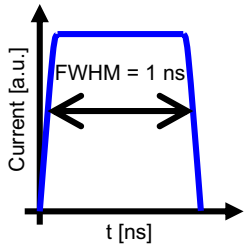
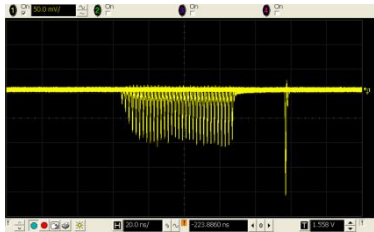
- 2008: Commissioned
- 2010: Routine operation
- 2014: Top-up mode
- **Two years of linac operating in top-up:**
32 bunch trains every 20 minutes, 0.25 nC
Good performance!.

Poster THPLR002, Lincoln Room

The ALBA Linac

Thermionic cathode

- Multibunch
- Single bunch modes
- Repetition rate: 3 Hz



• New injection mode implemented: **Single Klystron Working Mode**

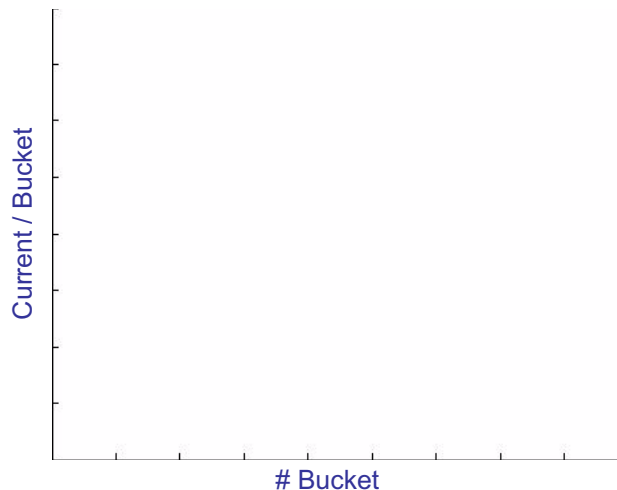
- A S-band switching system allows operating at 67 MeV with any of the two klystrons.
 - Commissioning of the ALBA injector with 67 MeV in 2015. Booster ramp to 3 GeV achieved with only one klystron.
- More reliable injector system!

Single Bunch Bucket Selection

- Top-up in Single Bunch with the **Single Bunch Bucket Selection mode** is under way.

The SBBS mode: accurate control of the AMOUNT and POSITION of the electrons injected into the storage ring.
An algorithm acts on the delay of the electron gun trigger with a resolution of 10 ps.

Storage Ring filling pattern



“ALBA” has been written using the SBBS mode.

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