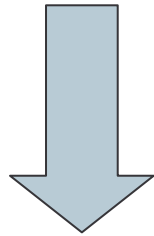


Fast kickers for DAΦNE

- 1) Motivations;**
- 2) Design;**
- 3) Time schedule for kickers construction;**

1) Motivations (1/2)

- a) *New stripline injection kickers design for **ILC Damping Rings**;*
- b) ***Parallelism between ILC-DR and DAΦNE** (deflection and bunch spacing);*



-DAΦNE Injection system upgrade

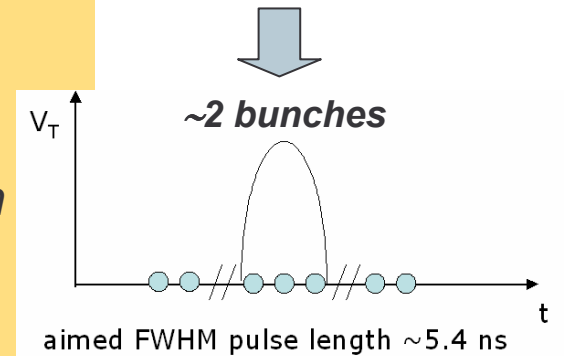
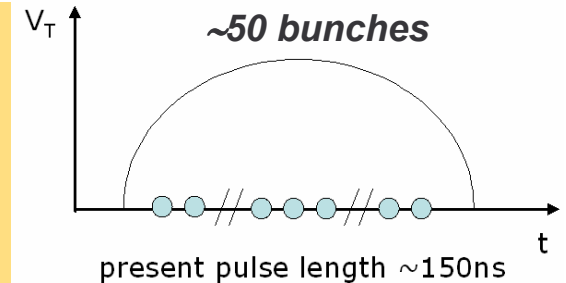
-Possibility to test these new devices on DAΦNE

1) Motivations (2/2)

DAΦNE Injection system upgrade

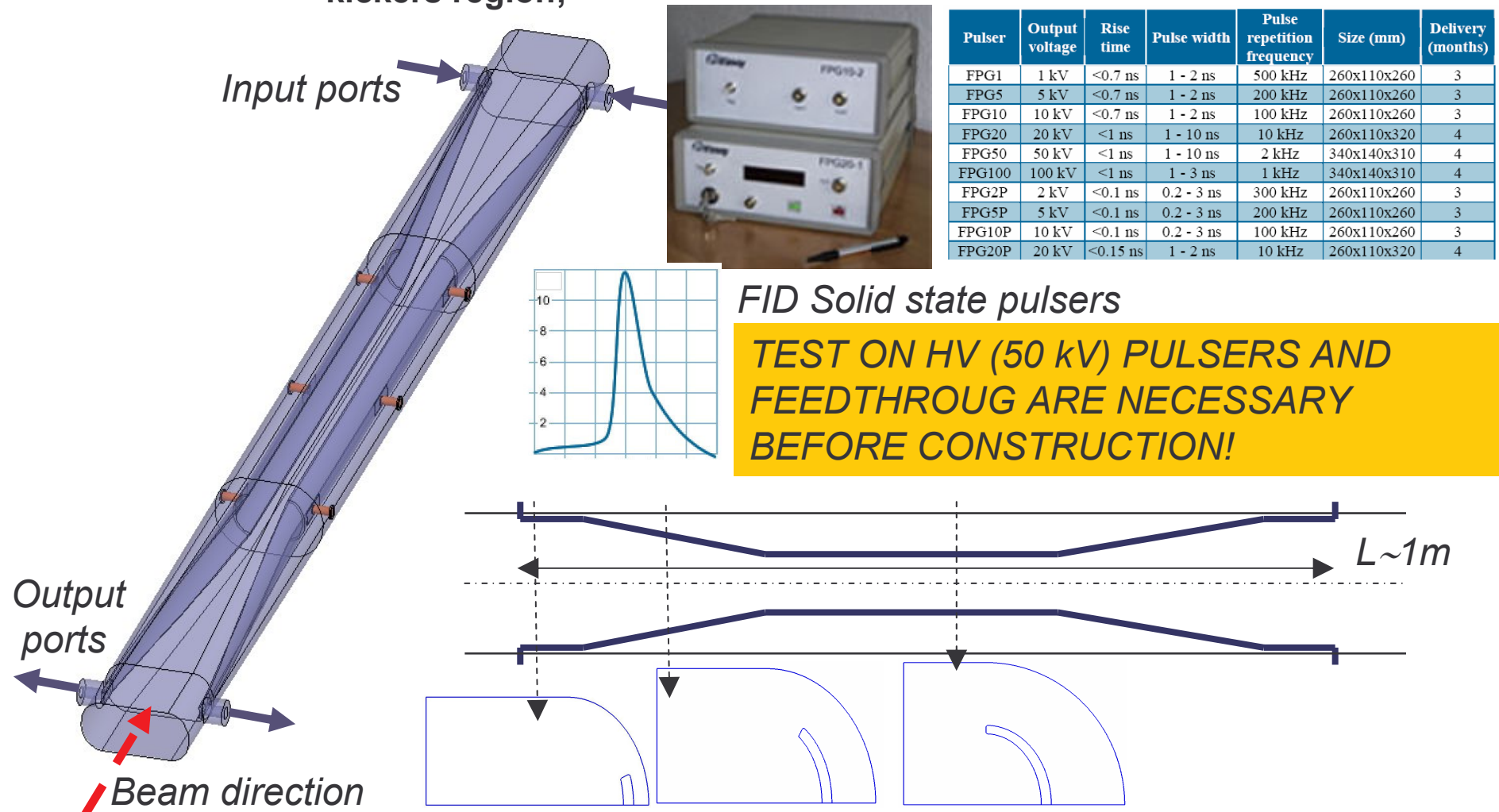
Compared to the present injection kickers the new ones have:

- **Much shorter pulse** (5ns instead of 150ns)
 - ⇒ Single bunch perturbation
 - ⇒ Low background during injection;
 - ⇒ Higher positron current threshold (exp. results);
- **Better uniformity** of the deflecting field
(expected better injection efficiency and background at high currents)
- **Reduction of the broadband impedance:**
 - a) first calculations give a reduction of ~50% of the kicker impedance;
 - b) uniform beam pipe cross section between the dipole region and the kicker region (no tapers)
- **Possibility of 50 Hz injection** (future upgrades of DAΦNE or DAΦNE2)



2) Design *Design based on tapered strip with rectangular cross section of the vacuum chamber in order to simultaneously achieve:*

- uniform transverse deflection as a function of the transverse position;
- tapered transition between the beam pipe and the kicker structure (small device coupling impedance);
- uniform beam pipe cross section between the dipole region and the kickers region;



3) Time schedule for kickers construction

	FEB	MAR	APR	MAY	JUN	JUL
HV Feedthrough tests						
Construction of the 1st kicker						
HV test on the 1st kicker with FID pulser						
Construction of other kickers, pulsers order and installation	?					