Issues for ATF2 research plan

introduction to discussion, especially for after 2012

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SC FF meeting at LAPP

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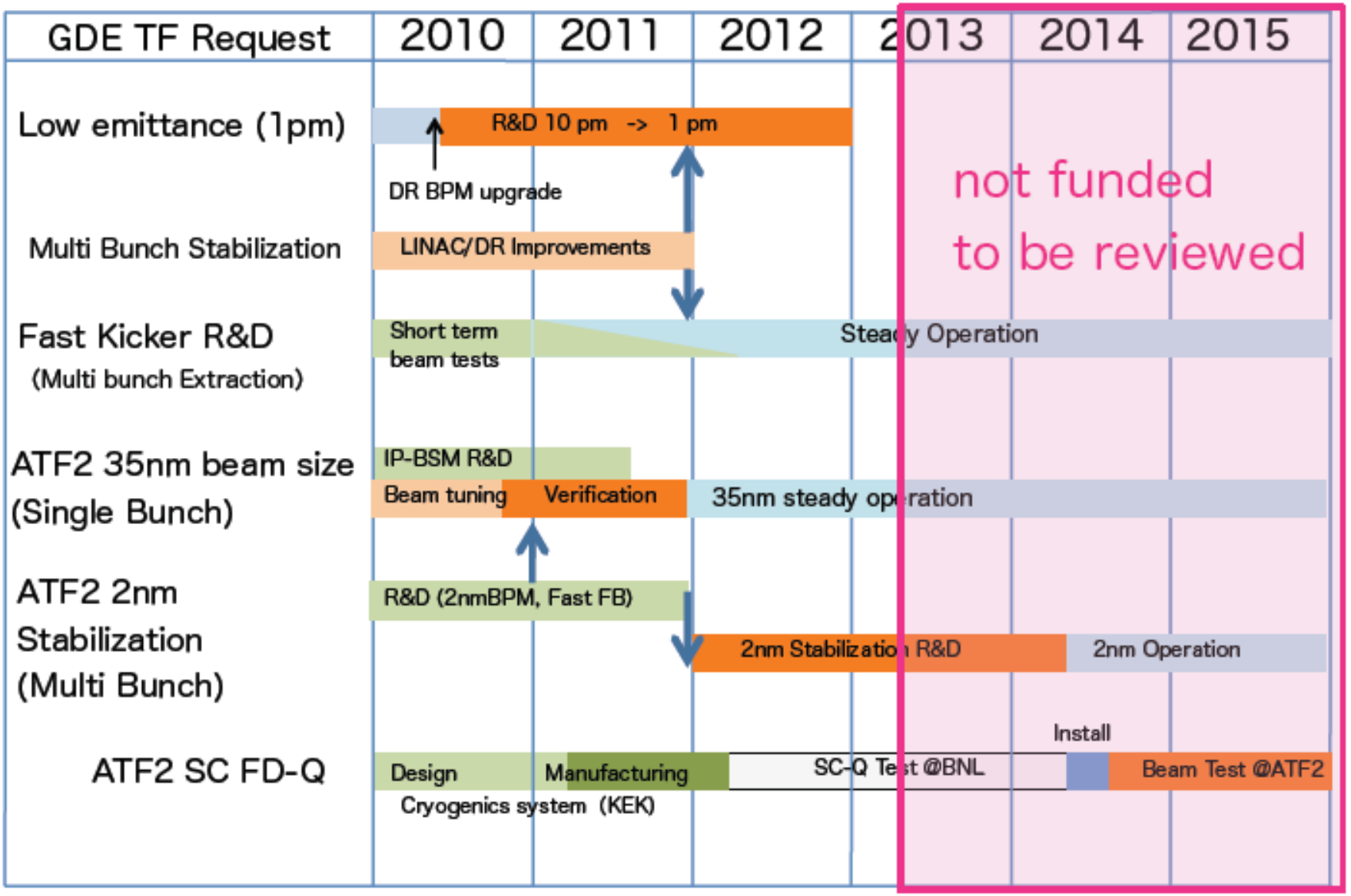
ATF long term plan



• Operation beyond 2012 in parallel with LC process for R&D and training

• Main future programs: lowered DR emittances, pushed FFS optics, background control (collimation ?), multibunch stabilisation (kicker, instrumentation, feedback), FD prototyping, high power laser and strong QED (longer term)

SC FD at ATF2 and ILC have some different challenges, but:

- integration test of several mechanical aspects when installed on beam line
- complete integration test of stability with beam in ILC conditions (with beam instrumentation, feedback in multibunch operation, fast kicker operation)
- excellent field quality should improve possibilities for pushed (low β^*) optics (though a warm FD upgrade could probably also be good enough)

Some personal thoughts:

- with SC FD, 20-35 nm reproducible bunch size goal cannot proceed with single bunches but requires stabilised multi bunches → some lost flexibility
- cannot be not sure how fast we'll reach multi bunch stability
- SC QF1 field stability + laser probe test important and should proceed

➔ would it make sense to find a way to continue the ATF2 SC QF1 / SF1 in parallel with ILC QF1 and leaving the option open for a future beam test ?