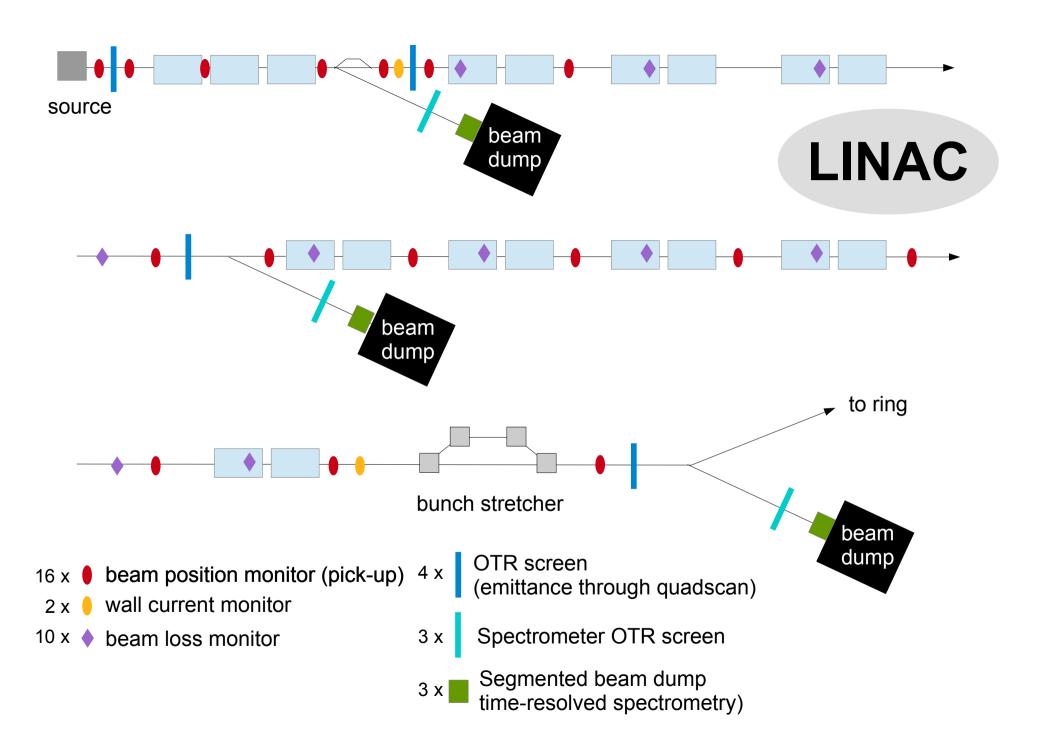
A. Linac + Combiner Ring:- - - - Real-world example

The sketch of the accelerator complex is a slightly simplified version of an existing machine:

the Compact Linear Collider Test Facility (CTF3) at CERN.

The following slides roughly show the existing beam instrumentation at CTF3.



C. Ring optical transition radiation (emittance/ Twiss param.) inductive pick-up beam position optical transition radiation (energy profile) inductive pick-up optical diffraction radiation (bunch length) electrostatic pick-up synchrotron radiation + streak camera -0-40* _ _ _ 0-0 •

B. ESS ---- Real-world example

The following slides list currently planned beam instrumentation for the ESS linac.

Some monitors have not been decided upon. Please note the large number of both beam position monitors and beam loss monitors.

ESS

"Warm" linac Superconducting cavities Source Target Spare space 4 x Faraday Cup (current) 16 x Wire Scanner 1 x Allison scanner (emittance) 16 x Non-Invasive Profile Monitor 1 x slit-and-grid (emittance) 55 x Button BPM 28 x Stripline BPM 4 x Bunch Shape Monitor 9 x Beam Current Transformer 4 x Beam Current Transformer 4 x Wire Scanner 3 x Halo Monitor 6 x Non-Invasive Profile Monitor 4 x "Flying Wire", Wire Scanner (Ionization Profile Monitor) 84 x Beam Loss Monitor 2 x Longitudinal Bunch Shape Monitor 7 x Beam Loss Monitor 3 x beam profile monitors based on a scintillator light