

D-Beam provides the design, manufacturing, installation and operation of advanced diagnostics for beam characterisation, loss detection and radiation protection applications in storage rings, linear accelerators, and experimental zones.



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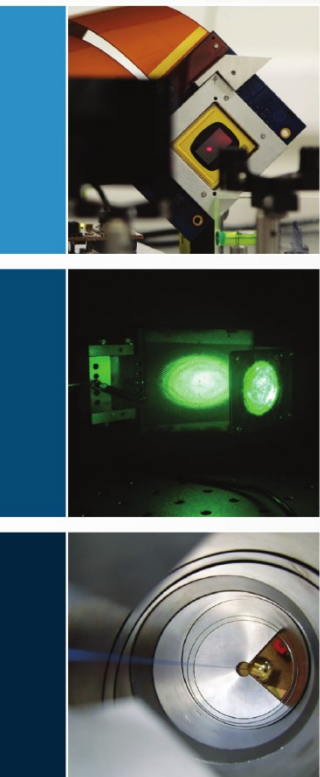
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ADVANCED DIAGNOSTICS FOR CHARGED PARTICLE BEAMS

D-Beam delivers innovative optical diagnostic solutions for a broad range of beam characterisation problems, enabling the successful operation and optimisation of particle accelerators.



Beam diagnostics is a highly specialised area, where it takes many years to develop and optimise new sensor technology. D-Beam provides immediate availability of a broad range of cutting edge detector solutions that have been developed and fully optimised.

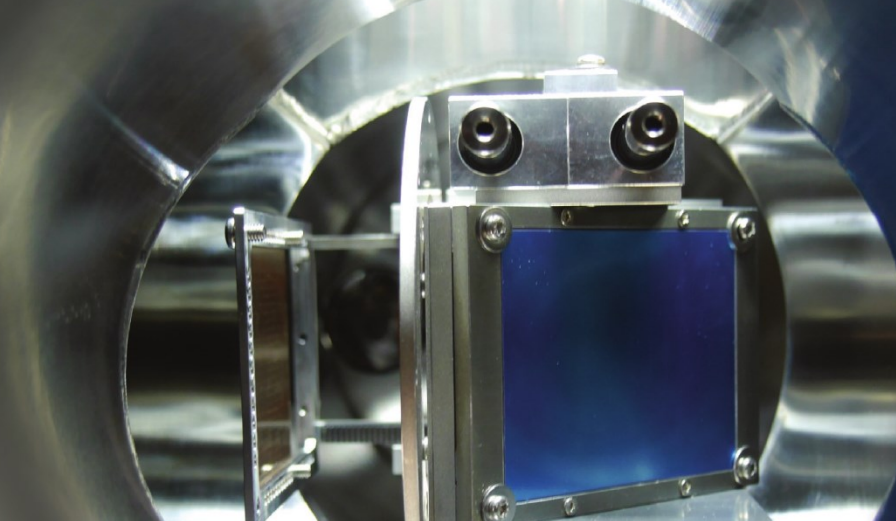
D-Beam holds expertise in accelerator and laser physics and technology, electronics, signal processing, material sciences and optoelectronics. Using this thorough knowledge of the field, we are able to carry out simulations of expected signal levels; scale electronics and signal amplification; system integration and ensure longevity in demanding conditions (e.g. radiation, cryogenics, ultra-high vacuum, etc.).

D-Beam delivers beam diagnostics which have been developed as reliable, cost-effective techniques. Providing high quality diagnostics for research, healthcare, security, environmental and manufacturing; potential applications range from accelerators and clinical facilities, to light sources and reactors.

We appreciate that one size does not fit all; therefore D-Beam offers a range of consultation options. We can supply an entire diagnostic including vacuum vessel, screens, optics and analysis software; or we can supply the constituent

components, down to individual optics or screens. D-Beam can also consult on your existing systems, to aid in improving or replacing them with systems which better meet your operating needs.

D-Beam has a host of industrial and research partners. With these links we provide cutting-edge diagnostics to our customers and also take part in frontier diagnostic research. This allows us to pave the way to providing the next generation of technology to our customers as soon as possible.



Optics and Opto-mechanics

Transfer lines are a critical component in any optical diagnostic. D-Beam can design and implement unique transfer lines for a range of applications at many wavelengths, including THz. This includes consultation to design and manufacture individual opto-mechanics, mountings and fixings; providing custom solutions specific to the requirements of our customers.

Halo and High Dynamic Range Imaging

D-Beam offers innovative applications of micro-mirror array devices. Imaging systems providing a dynamic range of 10^6 can be achieved. This high dynamic range methodology (HDR) can produce halo measurements and injected beam monitoring. D-Beam can provide entire systems or consultation to incorporate this technology into an existing imaging set-up.

Transverse profile monitors

Profile monitors are now a staple diagnostic for many accelerators worldwide. D-Beam offers a range of units for such monitors, including transition radiation and YAG. These screens can be incorporated with specially designed imaging systems to measure beam sizes on the micrometre scale. We can provide services and products from screens, to entire profile monitor systems.

Optical Fibre-based Beam Loss Monitor

An innovative system from D-Beam provides beam loss resolution ~ 10 cm, via a non-invasive beam loss monitor based on fibre optics. This system has been tested extensively on the CLARA linac (Daresbury, UK). D-Beam provides a range of services and products from optical fibres and associated detectors, to active detector electronics and consultation.