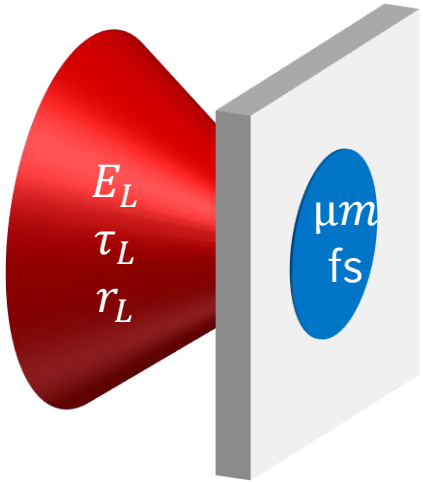
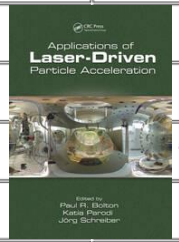


Laser-Plasma-Ion source: "Back-illuminated photo anode"

Home protons ions

https://www.alpa.physik.uni-muenchen.de/

TARG Series (Targetry for laser-driven sources)	BLIN Series (Beam Line optics and INstrumentation)	ALPA Series (Applications of Laser-driven Particle Acceleration)
TARG1 - 2013 (Garching)	BLIN1 - 2010 (Abingdon)	ALPA1 - 2015 (Venice)
TARG2 - 2015 (Paris)	BLIN2 - 2012 (Paris)	ALPA2 - 2019 (Prague)
TARG3 - 2017 (Salamanca)	BLIN3 - 2016 (Garching)	ALPA3 - 19-23 April 2021 (Prague-online)
TARG4 - 2019 (Milano)	BLIN4 - 2020 (Garching)	ALPA4 - 2023 (Prague)
TARG5 - Oct 25 - 27, 2021 (Dresden)	BLIN5 - 2022 (Garching)	ALPA5 - 2025 (Prague)



Driver+Source | Beamline+Instrum. | Application

laser and laser-plasma-centric — accelerator-centric

Two distinguished speakers today …

François Sylla

2007: Msc Optics & Photonics (ESPCI Paris, IC London)
2011: PhD near crit. Plasmas (Ecole Polytechnique)
2013: ERC POC, co-founder SourceLAB
… : laser-plasma tech and inov. solutions e.g. for material inspection

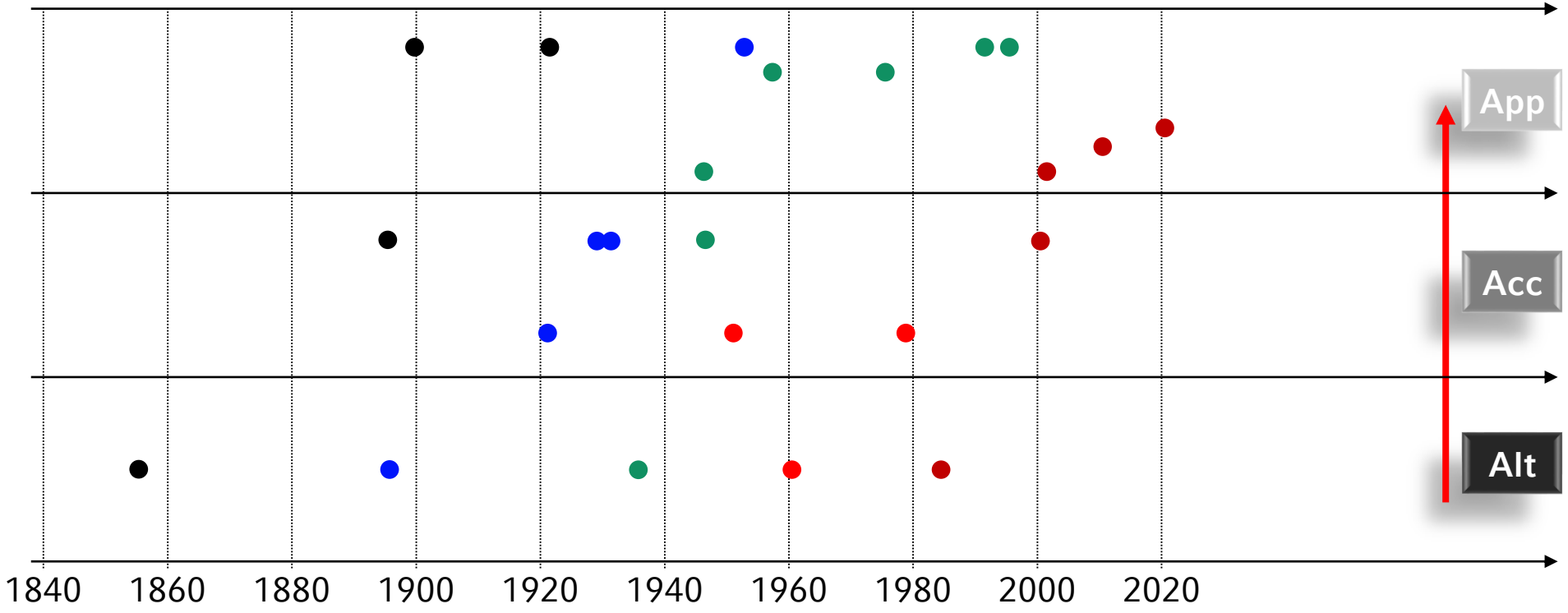
"Laser Plasma Accelerators to Address the Industrial Inspection Market"

Ulrich Schramm

1991: Diploma (Heidelberg)
1994: PhD atomic physics of heavy atoms (MPI Heidelberg)
1996: beam cooling (LMU)
1998: relativistic plasmas (LMU,MPQ Garching)
2002: Habil "crystalline ion beams" (Röntgen-prize)
2006: Laser-plasma research infrastructure (FZD/HZDR)
2011: Director Inst. of Radiation Physics (HZDR)
2014: 1st PW Experiments in Dresden
2019: 1st stable laser-driven ion irradiation platform

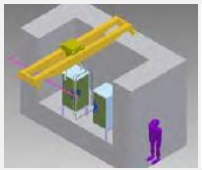
"Establishing Laser Accelerated Proton Beam Performance for Dose Controlled Irradiation Studies"

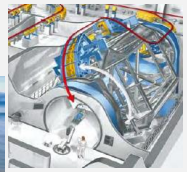
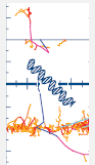
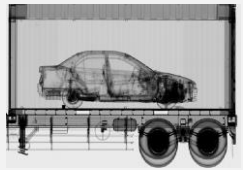
Alternator, Accelerator, Applicator (ex. tumor diag & therapy)



Accelerators, power sources and impact

Applications

isotopes X-rays Industry pharma therapy security

discovery discovery discovery

Acc technology	Cyclotron	Synchrotrons and LinAcc	Laser-based accelerating
Acc gradient	MeV/m	10 MeV/m	1…100 MeV/mm
High power sources	**MHz, µs** (Radio)	**GHz, ns** (TV/Radar)	Laser **PHz, fs** (Communication)

1900 1920 1940 1960 1980 2000 2020

thumbnails from https://science.osti.gov/-/media/hep/pdf/files/pdfs/Accel_for_Americas_Future_final_report.pdf