

Darmstadtium ?

Elements 107-112 discovered at GSI

Group→	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
1	1 H																		
2	3 Li	4 Be												5 B					
3	11 Na	12 Mg												13 Al					
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga						
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In						
6	55 Cs	56 Ba		72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn	
7	87 Fr	88 Ra		104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn	113 Uut	114 Fl	115 Uup	116 Lv	117 Uus	118 Uuo	
Lanthanides	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu				
Actinides	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr				



Technische Universität Darmstadt



TECHNISCHE
UNIVERSITÄT
DARMSTADT

“In my opinion you must definitely go to Darmstadt.
They have a good Polytechnic School.”

Albert Einstein 1919





5 locations

- Downtown (Stadtmitte)
- Lichtwiese
- Botanical Gardens (Botanischer Garten)
- University Stadium (Hochschulstadion)
- August Euler Airfield with wind tunnel

262,3 million EUR from the Federal State of Hesse in 2012 (including funds for construction)

144,8 million EUR in third-party funding in 2012 (including LOEWE)

600 acres of property

142 buildings

110 degree programs

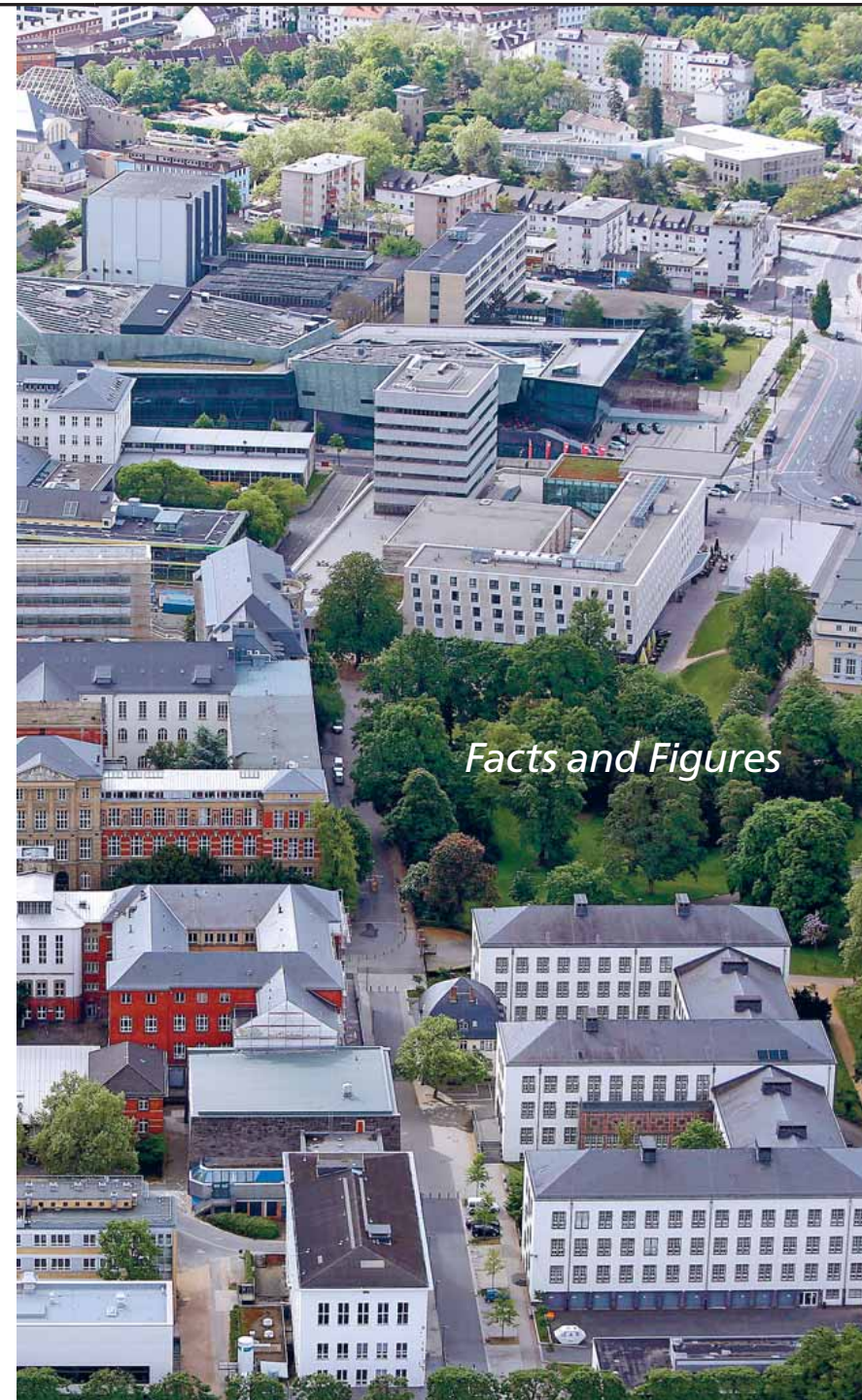
13 departments

5 fields of study

25,000 students

293 professorships

4,200 staff members



Facts and Figures

Engineering sciences (50 %)
Natural sciences (35%)
Humanities and social sciences (15 %)

*This is the university
that invented the
Electrical Engineer.
And much more since then.*



1882
Erasmus Kittler

Established
Electrical
Engineering as
an academic
discipline

Founder of the
(first) Electrical
Engineering
Department

Research Cluster: Matter and Radiation Science

Contributing Departments:

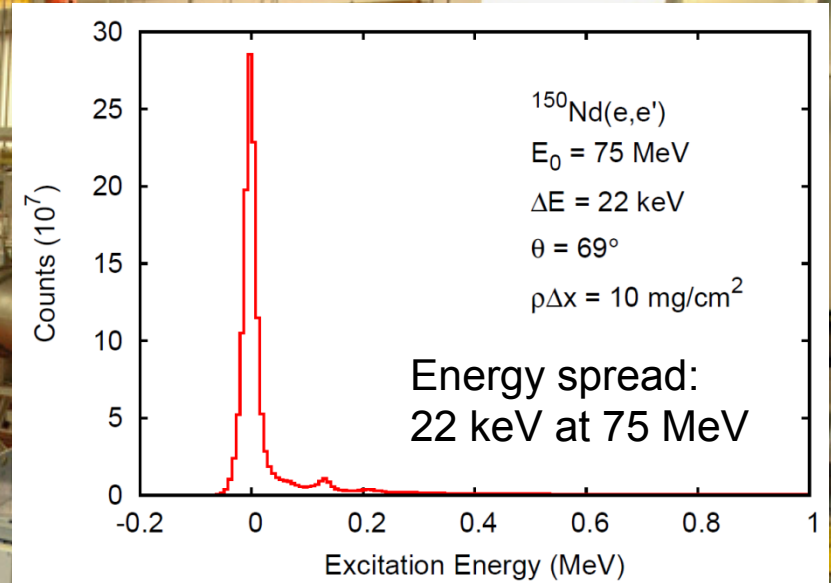
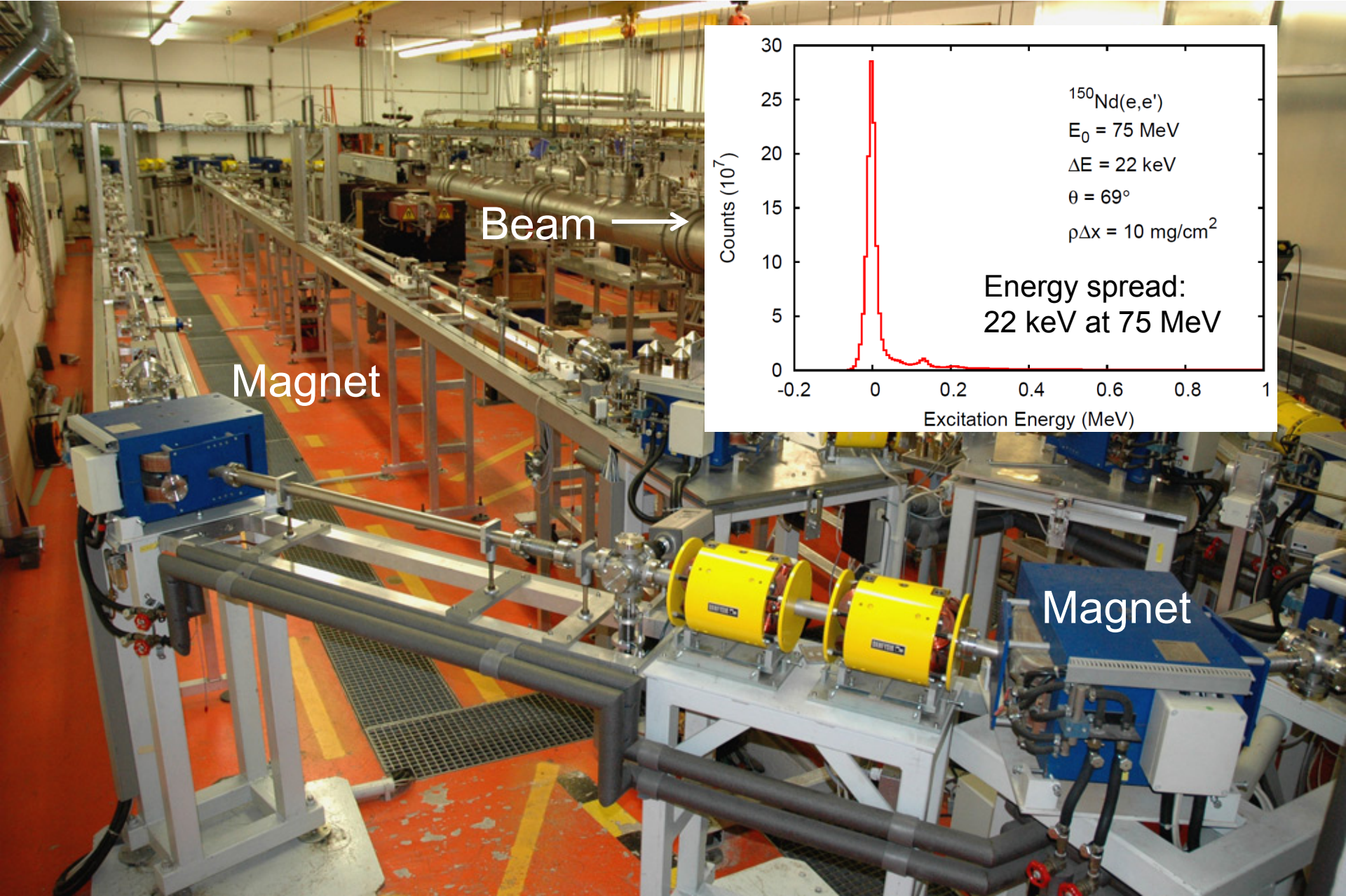
- Electrical Engineering and IT (ETIT)
- Materials- and Geo-Sciences
- Biology
- Physics

Research Areas

- Accelerator design, complex electromagnetic fields
- Construction and operation of particle accelerators
- Cell-modifications by irradiation, repair mechanisms
- Material modifications by ion irradiation
- Nuclear structure, fluids, ultracold quantum gases



Recirculating superconducting electron linac



Computational Electromagnetics Laboratory at TU Darmstadt



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etit



Computational EM Laboratory: Staff



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Professors:



Oliver Boine-Frankenheim
Accelerator physics
and
GSI Beam physics department



Harald Klingbeil
Accelerator technology
and
GSI Ring RF department



Irina Munteanu
Finite Methods
and
CST AG



Sebastian Schöps
Comput. Electromagnetics



Thomas Weiland
Head of the institute

+ 36 Phd students
and Postdocs
(17 with accelerator
related topics)

Research group leaders:



Wolfgang Ackermann
High frequencies



Erion Gjonaj
Coupled problems



Wolfgang Müller
Beam dynamics

Enjoy your stay in Darmstadt !