



HIM / MAM

Helmholtz-Institut Mainz

Section: Matter and **A**nti-**M**atter Symmetry

Jochen Walz

Institut für Physik, Johannes Gutenberg-Universität Mainz
and Helmholtz-Institut Mainz (interim)

Helmholtz-Institut Mainz (HIM)

Partners: (1) Land Rheinland-Pfalz

→ Johannes Gutenberg Universität Mainz

→ Institut für Kernphysik

→ Institut für Kernchemie

→ Institut für Physik

(2) Bund

→ BMBF

→ GSI Darmstadt

Located at Mainz University campus.

Organized as an outpost of GSI.

Founded in 2009.

Helmholtz-Institut Mainz (HIM) – Sections

Hadron Physics (EMP)	Maas
Hadron Physics (SPECF)	Denig
Superheavy Elements (SHE) / Physics	N. N. (Hessberger, interim)
Superheavy Elements (SHE) / Chemistry	Düllmann
Atomic Physics (MAM)	N. N. (J. W., interim)
Accelerator Physics (ACID)	N. N. (Barth, interim)
Theory Floor (THFL)	Wittig

+ Young Investigator Groups (Fritsch, Dvorak)

+ Deputy section leaders – all N. N.

+ P. I.'s

Helmholtz-Institut Mainz (HIM) – Section MAM

Section leader: N. N. (selection process ongoing)

P. I.'s: Wilfried Nörtershäuser:

spectroscopy of (light) rare isotopes in ion traps

test of Special Relativity in a storage ring

Werner Heil:

spin-polarized helium for MRI of human lung,

test of Lorentz invariance, polarization of antiprotons

neutron physics: EDM

J. W.:

Lyman alpha source for laser-cooling of antihydrogen

lasers for antihydrogen production by charge-exchange

(anti-)proton magnetic moment

HIM / MAM and ELENA

MAM = **M**atter and **A**nti-**M**atter Symmetry

⇒ MAM needs antiprotons at lowest energies

CERN AD & ELENA will be the only low-energy antiproton source in the next decade (or so) — before FLAIR at FAIR becomes real.

⇒ **CERN AD & ELENA is crucial for MAM.**

Substantial support, however, depends on the focus of the new section leader (to be selected soon) and his negotiations.

At this point in time, I can offer smaller contributions, only.

Like: work in the machine shop at the Insitut für Physik,
e. g. platform, supports, vacuum parts.

