



stahl-electronics.com

## Electronics for Ion Traps

Company Mail Address: Dr. Stahl, Hauptstrasse 15, 67582 Mettenheim, Germany



A word from our CEO:

**"We support your visions!"**

Our team will push forward your ideas and help you achieve scientific goals in research with ion traps and cryogenic electronics. Based on our experience and know-how specialized electronics and trap solutions are tailored according to your demands."

### Ion Trap Development:

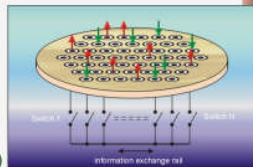
- Consulting and Design Support
- Adaptation to Beam Lines
- Implementation of Cryogenic Technology

Examples



Trap for Ultrahigh Precision Mass Spectrometry, in Collabor. with GSI Darmstadt/ Univ. Mainz, Germany 2002 - 2006

Quantum Computing Planar Penning Trap, Project lead time 2004 - 2009 (funded under EU funding in FP6)



see: Stahl et al. , Eur. Phys. J. D 32, 139-146 (2005)



High Resolution Electron-Spin-Resonance Trap, Univ. Mainz, Germany 2003 - 2012

see: Alonso et al. Rev. Sci. Instr. 77, 03A901 (2006)

### Dedicated Electronic Solutions

- RF/Low Noise Electronics for Traps
- Cryogenic Electronics (T = 77K, 4K, 200mK)
- High Precision Electronics

#### NexGen 3

4.2K Ultra Low Noise GaAs-Preamplifier for Ion Detection FT-ICR / axial motion



Ultra fast turn-on / turn-off Paul Trap Amplifier for AC trapping field in Ion Traps



Ultra precise multi channel voltage source for Precision Penning Traps and FT-ICR Mass Spectrometry, 25 bit resolution, outstanding <0.1ppm stability

Superconducting Resonator Coil for Single Ion Detection in Cryogenic Penning Traps



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Collaboration Partners and Customers:



Forschungszentrum Karlsruhe in der Helmholtz-Gemeinschaft



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