

Curriculum Vitae Jens W. Tomm

Max-Born-Institut Berlin
Arbeitsgruppe „Optoelektronische Bauelemente“
Max-Born-Str. 2A 12489 Berlin
Germany

tel. +49-(0)30-63921453 (office)
tel. +49-(0)30- 63921451 (lab.)
fax. +49-(0)30-63921459
tomm@mbi-berlin.de
<http://www.mbi-berlin.de>

private:
Ameisengasse 15
14532 Kleinmachnow
tel. +49-(0)33203-21277
j.w.tomm@t-online.de



Personal data

male, age 53, married with two children (26, 21), German

Education

- Dr. rer. nat. (Ph.D.) in Physics, summa cum laude, Humboldt University, Berlin 1984
Dissertation: Study of the optical properties of n-Pb_{1-x}Sn_xTe/p-Pb_{1-x}Sn_xTe/p-PbTe-heterostructures by means of photoluminescence and injection-luminescence.
- Diploma (M.S.) in Physics summa cum laude, Humboldt University, Berlin 1982 Thesis: Luminescence properties of lead salts for optical and electrical excitation.

Professional and Research Experiences

1980-1984: Development and characterization of heteroepitaxial and diffused homojunction diode lasers for the 3-12 μm spectral range.

1984-1986: R&D work in a subcontract to "Carl Zeiss Jena" company to develop diode lasers for an IR diode laser spectrometer.

1986-1989: R&D group leader in a subcontract "Optical characterization of II-VI materials for IR quantum detector fabrication"

1989-1993 initiated and collaborated in several research projects in the field of basic research:

- Eu containing lead salts, band structure investigations, magnetospectroscopy, time resolved spectroscopy, high excitation densities.
- Lead Salt quantum effect structures, etching and optical characterization of sub-micron stripe and dot arrays.
- Spectroscopy investigations in narrow gap II-VI materials (bulk, MBE, LPE) in the mid and far IR.
- Preparation of optically pumped laser structures on the basis of MBE grown materials.
- Spectroscopy of excitons in narrow gap materials.
- Methodical development in the field of infrared luminescence spectroscopy, mainly

Fourier Transform emission spectroscopy in lead salts, II-VI-Materials and II-V-Quantum effect structures. Development of mid-IR magnetoluminescence spectroscopy as a method and tool.

1993-1995 visiting professor at Georgia Tech Atlanta

- Characterization of MOMBE grown II-VI superlattices and epitaxial layers (e.g. CdTe, ZnS) by means of luminescence and magnetoluminescence spectroscopy.
- Characterization and in-situ-analysis of MBE grown "phosphors" (e.g. ZnS:Mn, ZnGa₂O₄) for low-voltage flat panel applications.

1999 (3 month) visitor at the RIKEN-Institute Sendai, Japan

- optical characterization of ZnO-laser-films for semiconductor UV laser applications

1995-present: Senior researcher and project leader at the 'Max-Born-Institut für Nichtlineare Optik und Kurzzeitspektroskopie'

Topics of the present work of my group are

- spectroscopic analysis of optoelectronic devices
- thermal analysis of optoelectronic devices
- device-related near-field scanning optical microscopy, Fourier-Transform, spectroscopy and microthermography
- catastrophic optical damage in semiconductor lasers
- transient photoluminescence spectroscopy in semiconductors and nanostructures

see also <http://www.mbi-berlin.de/de/research/projects/3-03/>

Further scientific activities

- Consultant and Contract Advisor to ZBWU e.V. Berlin
- Reviewer in about two dozen scientific journals and governmental organizations
- Member in several committees of international conferences such as CLEO Europe; MRS-Europe, and DRIP, Organizer of several conferences, e.g. DRIP-XII, see <http://www.drip12.de/>
- Member of the "Optical Society of America" and "German Physical Society"
- More than 230 publications in peer-reviewed journals, one book, edited several volumes as guest editor of journals (conference proceedings)
- Project leader and contributor in many national (BMBF; DFG, Volkswagen) and international (EU, ESA) research projects

Other activities

- Member of the DLRG (German Life Rescue Association)
- Cycling
- Running, finisher at several marathon contests