



Current positions

Director of the Institute for Pulsed Power and Microwave Technology (IHM) / Professor, High-Power Microwave Technology, KIT (since 2011)

Previous position

Different positions in industry: HW development, R&D project / HW line management, Supply Line Management (1997 – 2011)

Scientific degree

Dr.-Ing. in Electrical Engineering Hamburg University of Technology (2000)

Recent research topics

Fusion gyrotrons for EC H&CD / CTS (W7-X, ITER, DEMO); materials processing with microwaves (dielectric heating, microwave plasma processing)

Awards, honors, memberships

Tasks leader of EUROfusion WP HCD EC Gyrotron R&D and AD, Guest editor of IEEE T-PS special issue on high-power microwave generation (2016) and IEEE T-ED special issue on vacuum electronics (2018), IOC member of IRMMW-THz conf., Member IEEE ED VETC, Member of VDI/VDE-GMA FA 8.17 Terahertz-Systems.

Publications (5 most important)

- **J. Jelonnek** et al., Towards Advanced Fusion Gyrotrons: 2018 Update on Activities within EUROfusion, The European Physical Journal / Web of Conferences, 203, 04007 (2019) [doi:10.1051/epjconf/201920304007](https://doi.org/10.1051/epjconf/201920304007)
- **J. Jelonnek** et al., Design considerations for future DEMO gyrotrons: A review on related gyrotron activities within EUROfusion, Fusion Engineering and Design (2017) [doi:10.1016/j.fusengdes.2017.01.047](https://doi.org/10.1016/j.fusengdes.2017.01.047)
- **J. Jelonnek** et al., Gyrotron Forschung und -Entwicklung am KIT – Ein wichtiger Beitrag zur europäischen Fusionsforschung, Vakuum in Forschung und Praxis (2016) [doi:10.1002/vipr.201600631](https://doi.org/10.1002/vipr.201600631)
- **J. Jelonnek** et al., From series production of gyrotrons for W7-X Towards EU-1 MW gyrotrons for ITER, IEEE Trans. Plasma Sci. (2014) [doi:10.1109/TPS.2014.2301839](https://doi.org/10.1109/TPS.2014.2301839)
- **J. Jelonnek** et al., "Rigorous Computation of Time-Dependent electromagnetic Fields in Gyrotron Cavities excited by Internal Sources, IEEE Trans. Plasma Sci. (1999) [doi:10.1109/27.772264](https://doi.org/10.1109/27.772264)