

My PhD at TTF

Higher Order Modes in Accelerating Structures for Linear Colliders



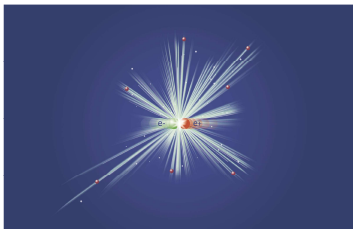
Started PhD work at DESY end of 1997 under the supervision of **Peter Schmüser**

Linear Colliders

	TESLA	SBLC	JLC	NLC	VLEPP	CLIC
Main linac RF (GHz)	1.3	3	2.8 - 11.4	11.4	14	30
Technology	SC	NC	NC	NC	NC	NC

DESY

(Ref.: SLAC-PUB-12106, 1996)



Co-supervision by
Norbert Holtkamp
and **Reinhard Brinkmann**

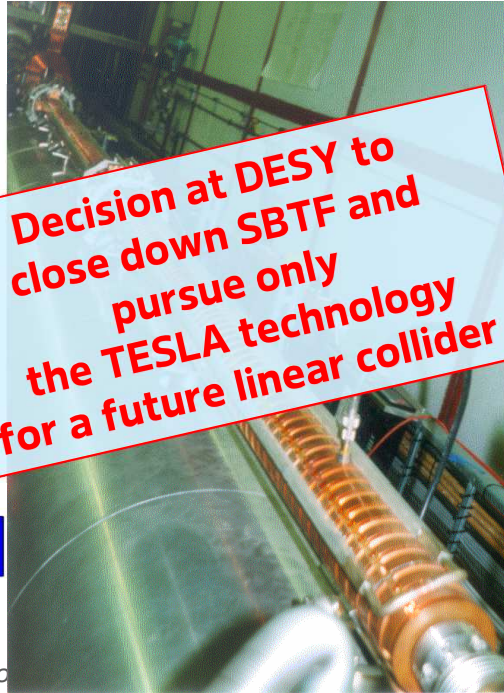


PhD Work

First worked at the **SBTF** (test facility for the SBLC)

Learned on **Wakefields** and **Higher Order Modes**, which can spoil the beam quality.

Decision at DESY to close down SBTF and pursue only the TESLA technology for a future linear collider



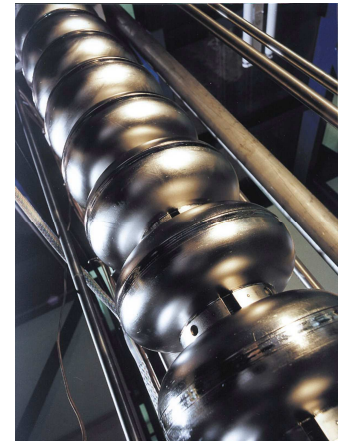
Courtesy of S.A. Udongwo

Continued my work at **TTF** on the **TESLA cavities**

In both test facilities, looked for "dangerous" modes with modulated beams

⇒ At TTF found unexpected mode at ca. 2.6 GHz, with team from CEA Saclay

with a 54 MHz multi-bunch beam



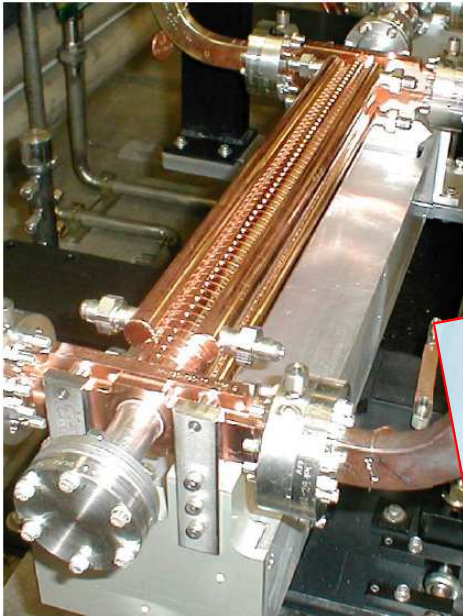
Obtained **PhD in 2001**



After PhD

2001: Postdoc at **SLAC**
on **NLC**

	ILC	SBLC	JLC	NLC	VLEPP	CLIC
Main linac RF (GHz)	1.3	3	2.8 – 11.4	11.4	14	30
Technology	SC	NC	NC	NC	NC	NC



2004: back at **DESY**
on **TESLA, TTF2, E-XFEL**

**ICFA decision to use the
superconducting technology
for the planned
International Linear Collider (ILC)**



Since 2006 in the **MDI group** (Machine,
Diagnostics and Instrumentation)

Coordinator for MDI diagnostics at **FLASH**

In parallel continued work on **Higher Order
Modes** in TESLA cavities, e.g. using them for
beam **diagnostics**

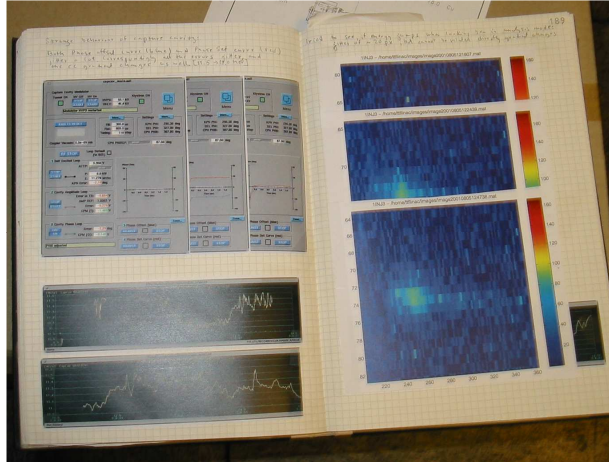
TTF Operation from the old Control Room

The facility was run in large part by **Post-Docs** and **PhD students**

Part of the job as an **operator** was to keep the **logbook**:

Lots of work:

write ...by hand!
printing plots,
cutting, pasting
in the book



One morning in all corridors at DESY:

**Hast du gehört?
Es hat geläut**

