

# Beam Position Monitor



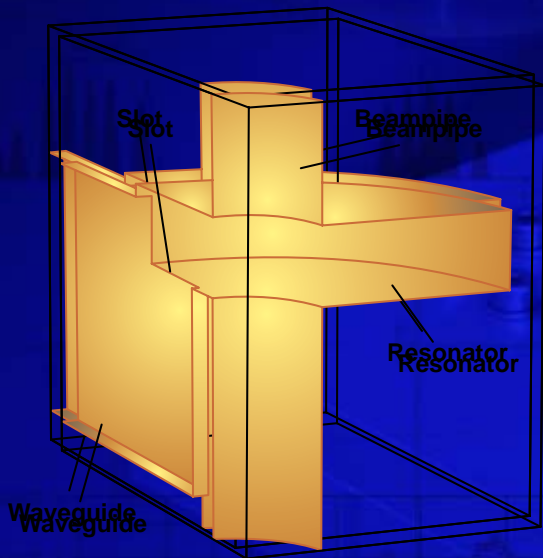
Alexei Liapine

## Status Report

05.04.2004

# Intro and History

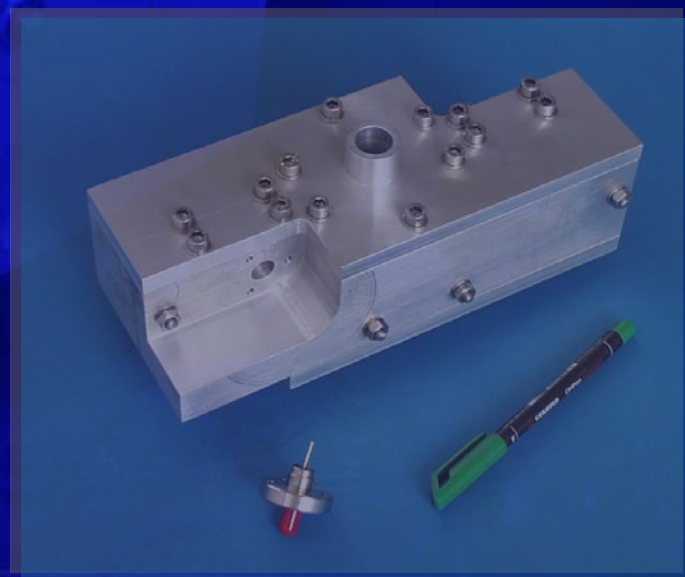
Idea – slotted cavity



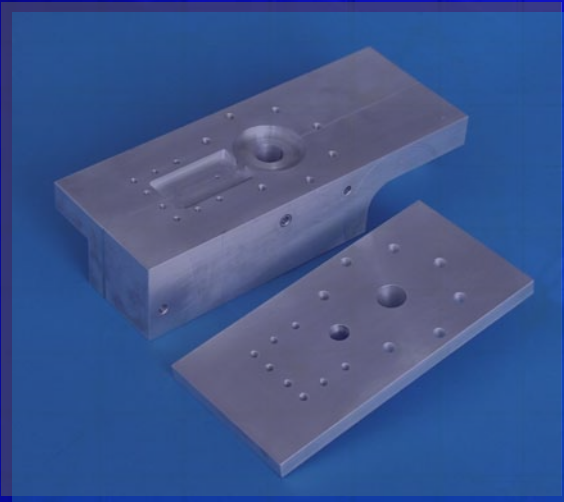
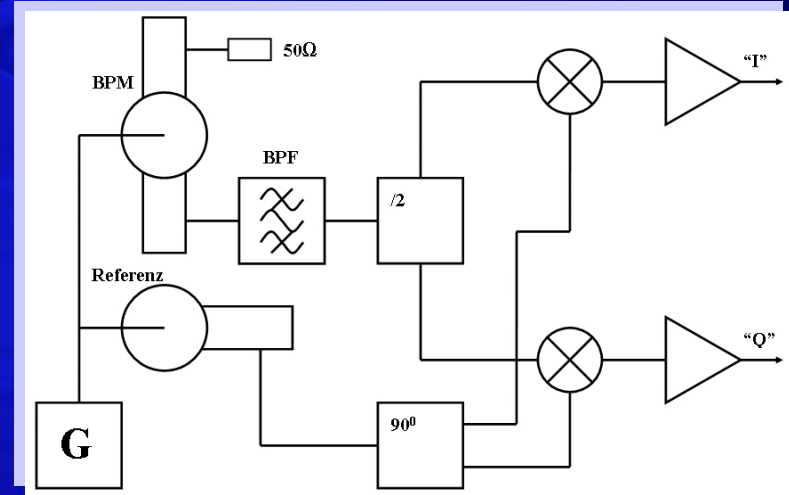
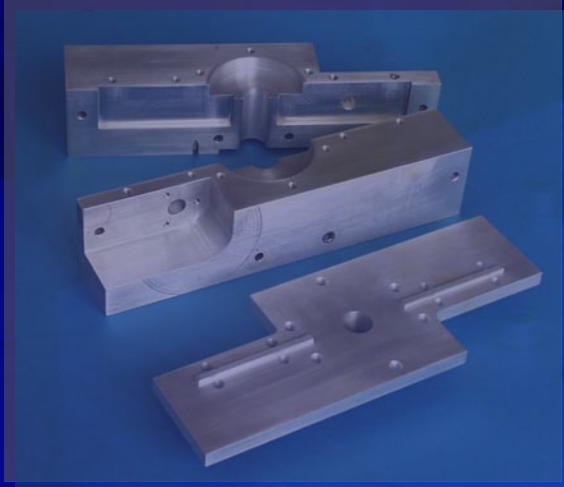
First implementation –  
1.5 GHz-monitor



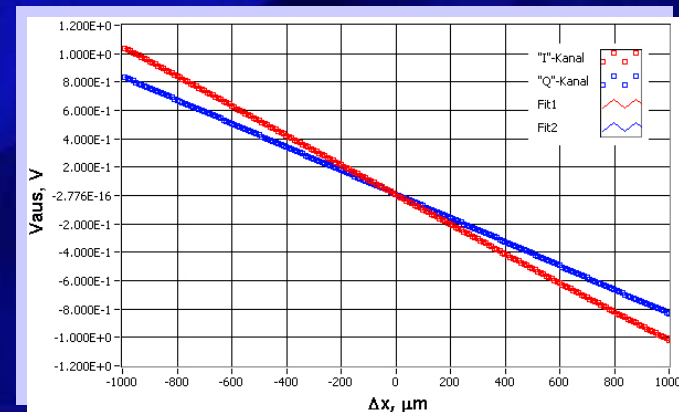
“Final” design –  
5.5 GHz-monitor



# 5,5 GHz-Monitor



Measured  
resolution  
 $\sigma=300\text{nm}$

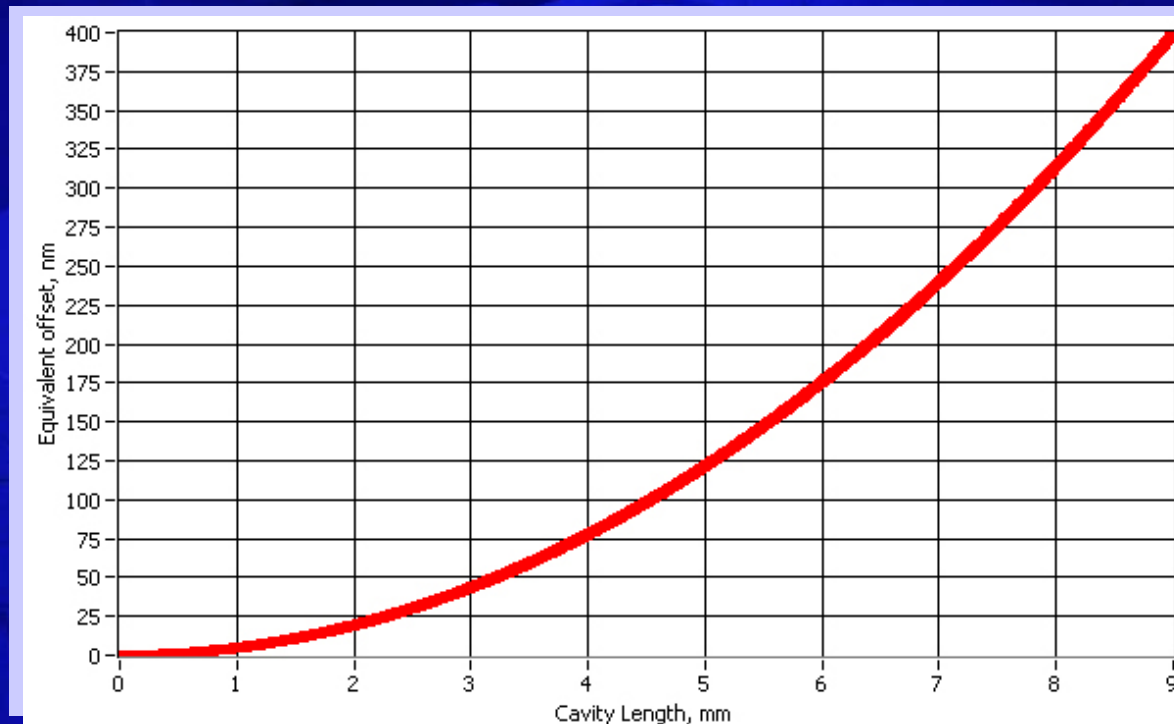


# Vacuum prototype



The vacuum prototype is made of copper. Some parts are made of stainless steel in order to achieve good vacuum properties. Most of parts are brazed together using hard-brazing.

# Problems and Solutions



Resonator

The incline component can be reduced by reducing the cavity length. The disadvantage – lower output signal.  
Another way – higher resonance frequency. Disadvantages – critical tolerances, complications with the electronics

# Plans

- Finish the vacuum prototype production (now-09.04)
- Measure the BPM with and without the signal processing electronics at the ELBE (13.04-22.04)
- Finish the TDR and internal report