



Center of Technical Diagnostic ZD Rpety - DAKEL

September, 13-15, 2006, Ghent, Belgium

AERONEWS 30 month meeting

WP3.3 Development optimization of the designed transducer system

Goals:

- Concept of verification with feedback from WP4 and WP5.
- Optimize the transducers system design and adjust the NEWS equipment to various conditions using novel experimental procedures (feedback to WP1).
- Optimize the transducer and sensor requirements and placement in connection with recommendations from WP2.

Milestone M4 (month 36)

WP3.3: An overview of introduced DAKEL transducers

Introduction of various PZT transducers

- **MICRO 2001** (\varnothing 3.4 mm, height 3.5 mm, glued)
- **MIDI 2001** (\varnothing 6 mm, height 6.3 mm, glued)
- **IDK 09** (\varnothing 9 mm, height 9 mm, glued)
- **IDK 14** (\varnothing 14 mm, height 4.5 mm, glued, preamplifier)
- **MDK 13a** (\varnothing 13 mm, height 11 mm, self-magnetic, optional preamp.)
- **MDK 17a** (\varnothing 17 mm, height 13 mm, self-magnetic, optional preamp.)
- **DKS 1-3** (\varnothing 25 mm, height 16 mm, glued, dual freq. 1 MHz and 3 MHz)
- **DKS 2-6** (\varnothing 25 mm, height 16 mm, glued, dual freq. 2 MHz and 6 MHz)
- **MTR 5/MTPA 5** (\varnothing 16 mm, height 17 mm, glued or magnetic holder, preamplifier (MPTA 5))
- **MTR 15/MTPA 15** (\varnothing 22 mm, height 51 mm, glued or magnetic holder or waveguide with screw, preamp. + switch (MPTA 15))
- **VTS 200** (\varnothing 20 mm, height 42 mm, magnetic holder)
- **Sandwich structures for modes 33**
- **Sandwich structures for modes 31**
- **25 kHz Langevine power unit**
- **50 kHz Langevine power unit**

WP3.3: DAKEL transducers

Partners that received the transducers

- **KULAK**
5x IDK 09 (used during previous Prague week)
- **UNEXE**
IDK 09 (used during previous Prague week)
- **ITASCR**
5x IDK 09,
1x 25 kHz Langevine power unit,
1x 50 kHz Langevine power unit,
1x MDK 13a
(majority of them used during previous Prague week)
- **CSM**
3x DKS 1-3
3x DKS 2-6
- Some other partners attending previous Prague week were also using the IDK 09 transducers (UNIV-BRIS, ...)

WP3.3: DAKEL transducers

Plan for the next period

- **Feedback on the transducers (!!!)** from WP5, everyone who obtained transducers, and (possibly) everyone who had a chance to test them on the Prague measuring week. (It is necessary in order to be able to better adopt and optimize characteristics for the specific methods and applications.)
 - Did the transducers perform as necessary for your measurements?
 - Are there any properties of the transducers that should be changed in order to better fit your experiment? (e.g. freq. band, damping, sensitivity, mech. properties, el. properties, attachment, wiring, ...)
- Any other suggestions, ideas and requests involving the required parameters of any of the transducers, or perhaps ways to change them.
- Also any comparisons with other transducers possibly at your disposal is welcome.