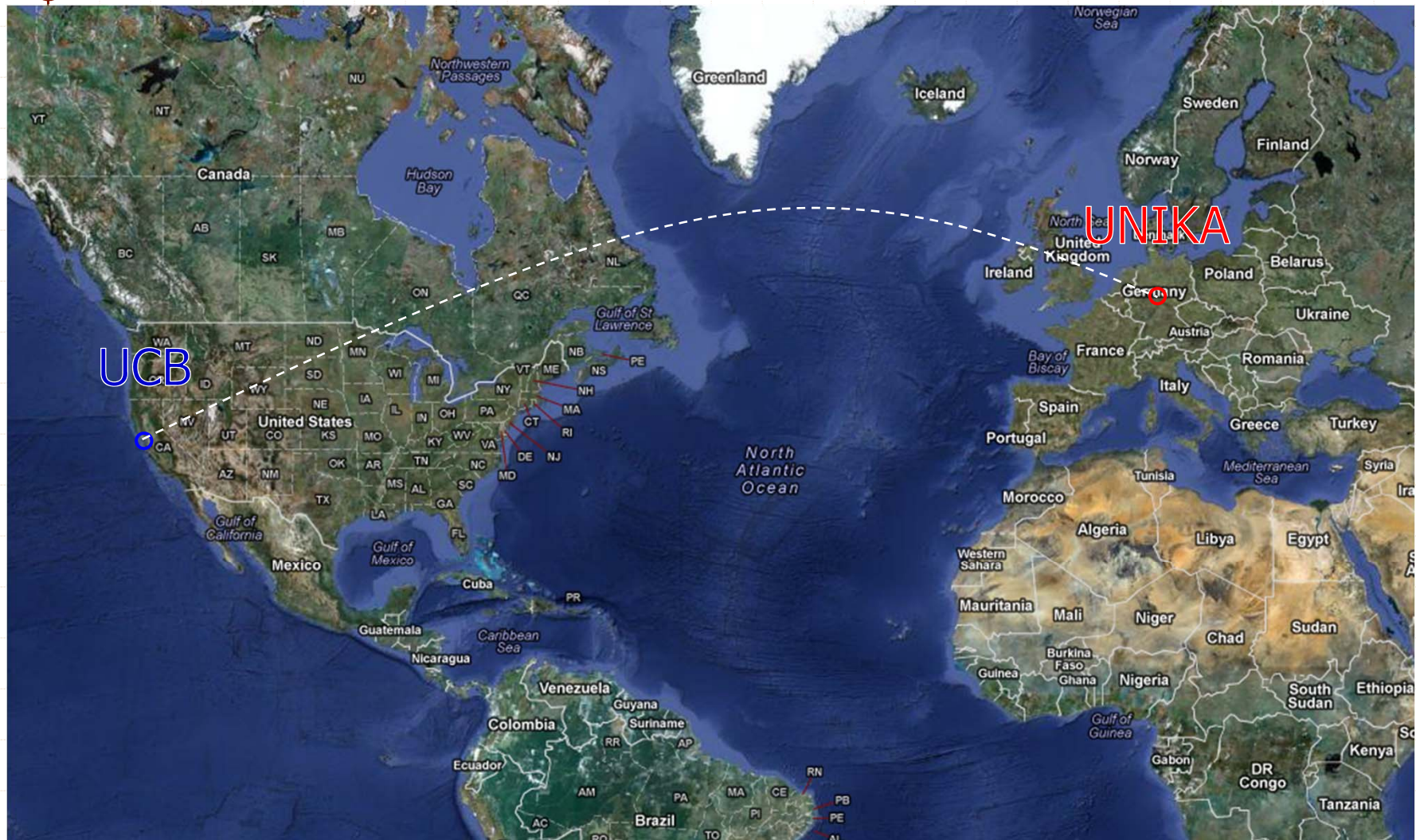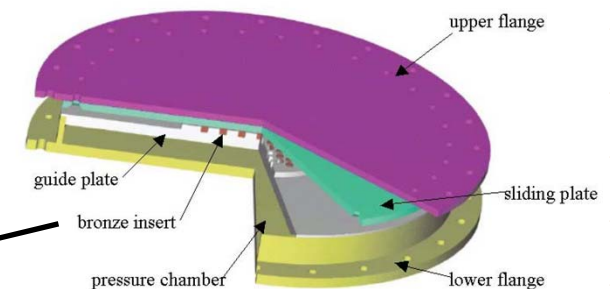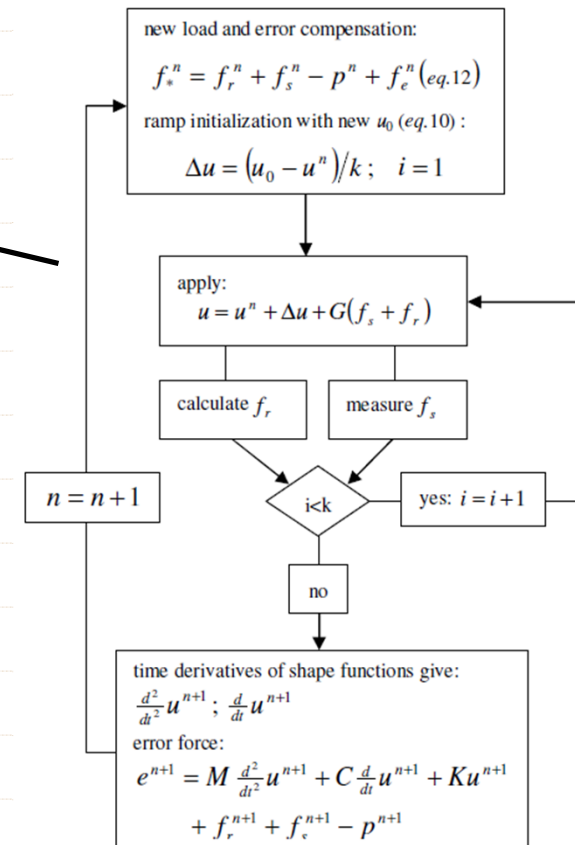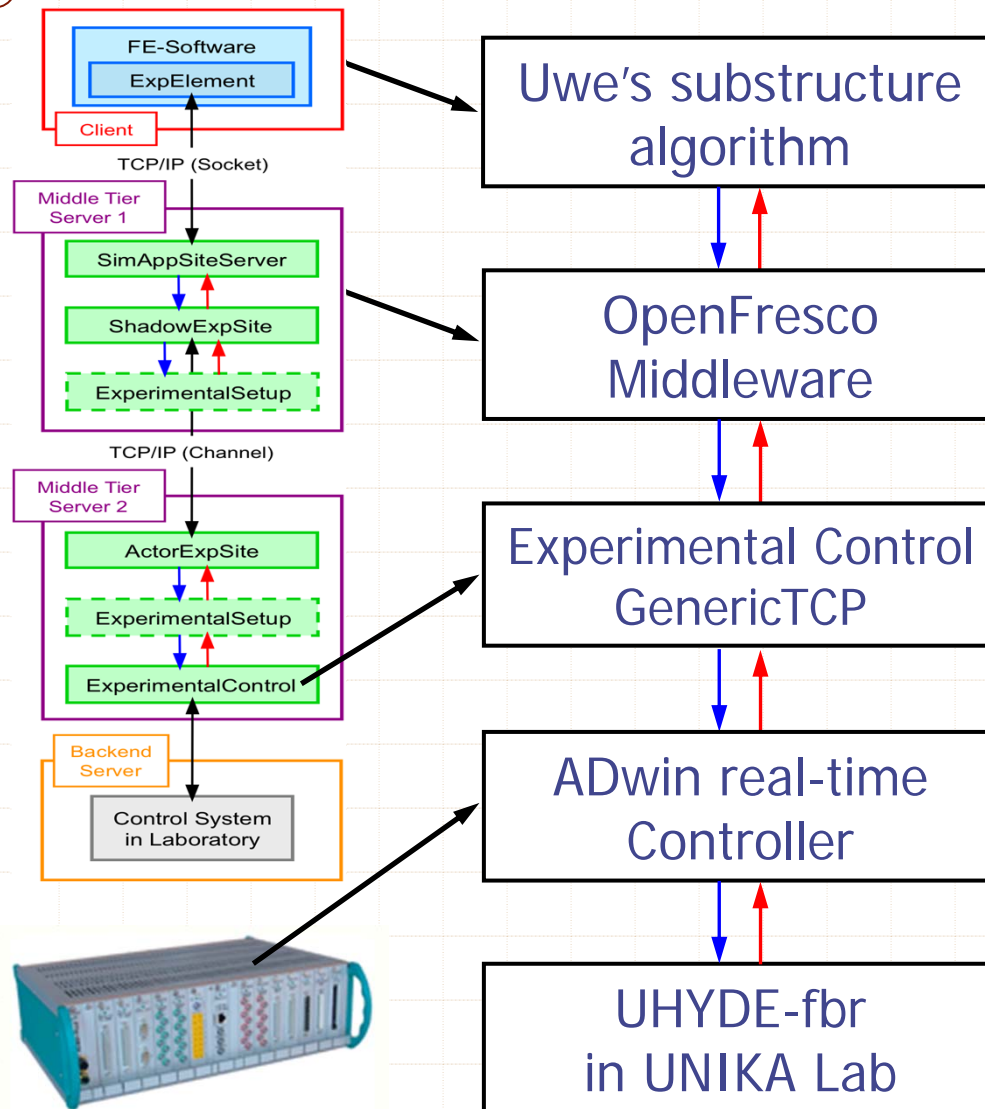# Continuous Intercontinental HS

UNIKA

UCB

○ Numerical Site　　○ Experimental Site
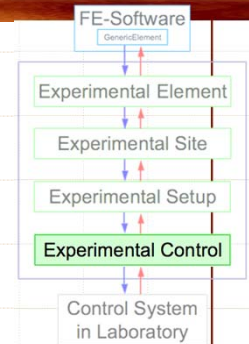
OpenFresco Details

New Experimental Control

GenericTCP

```
expControl GenericTCP $tag ipAddr $ipPort
    -ctrlModes (5 $mode) -daqModes (5 $mode)
    <-initFile fileName>
```

$tag	unique control tag
ipAddr	IP address of controller program
$ipPort	IP port of controller program
$mode	arrays of control and daq mode flags for (disp, vel, accel, force, time)
fileName	ASCII text file with additional parameters to initialize the controller (optional)

FE-Software
GenericElement

Experimental Element

Experimental Site

Experimental Setup

Experimental Control

Control System
in Laboratory

UHYDE-fbr

• Friction is controlled
by air pressure in
chamber
• Very stable
hysteresis loop

upper flange

guide plate

bronze insert

sliding plate

pressure chamber

lower flange
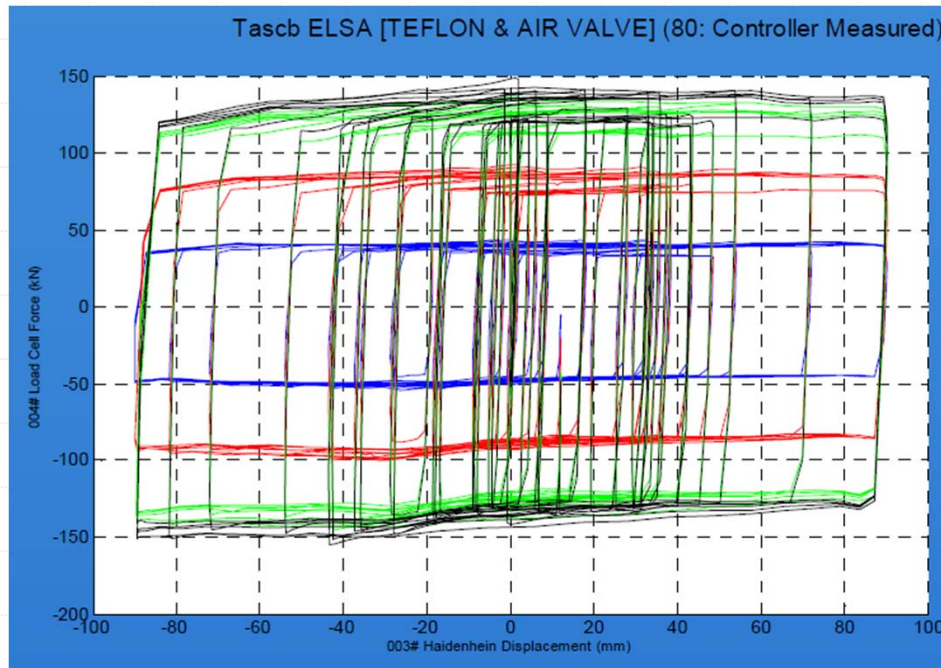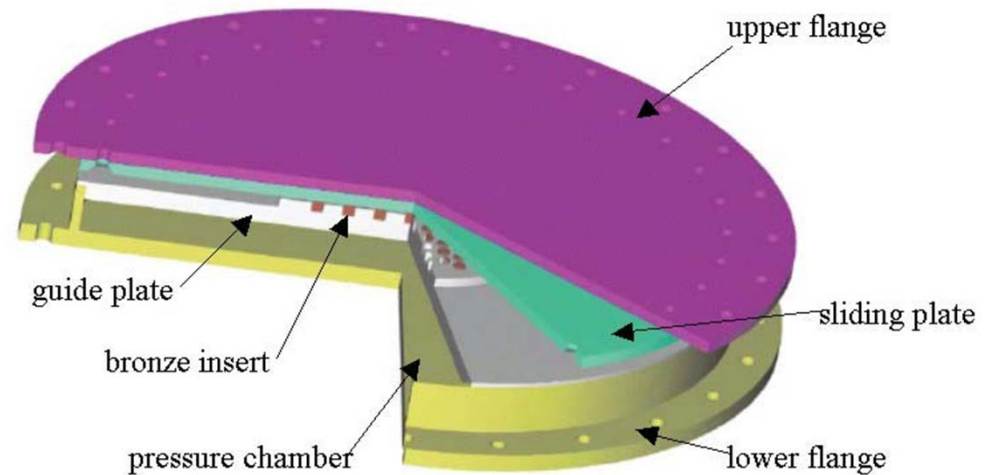
Hysteresis Loops for
different air pressures

During Test Execution

Laboratory at UNIKA

OpenFresco

Client with Uwe's HS algorithm

27/07/2012 08:37

OpenFresco

5
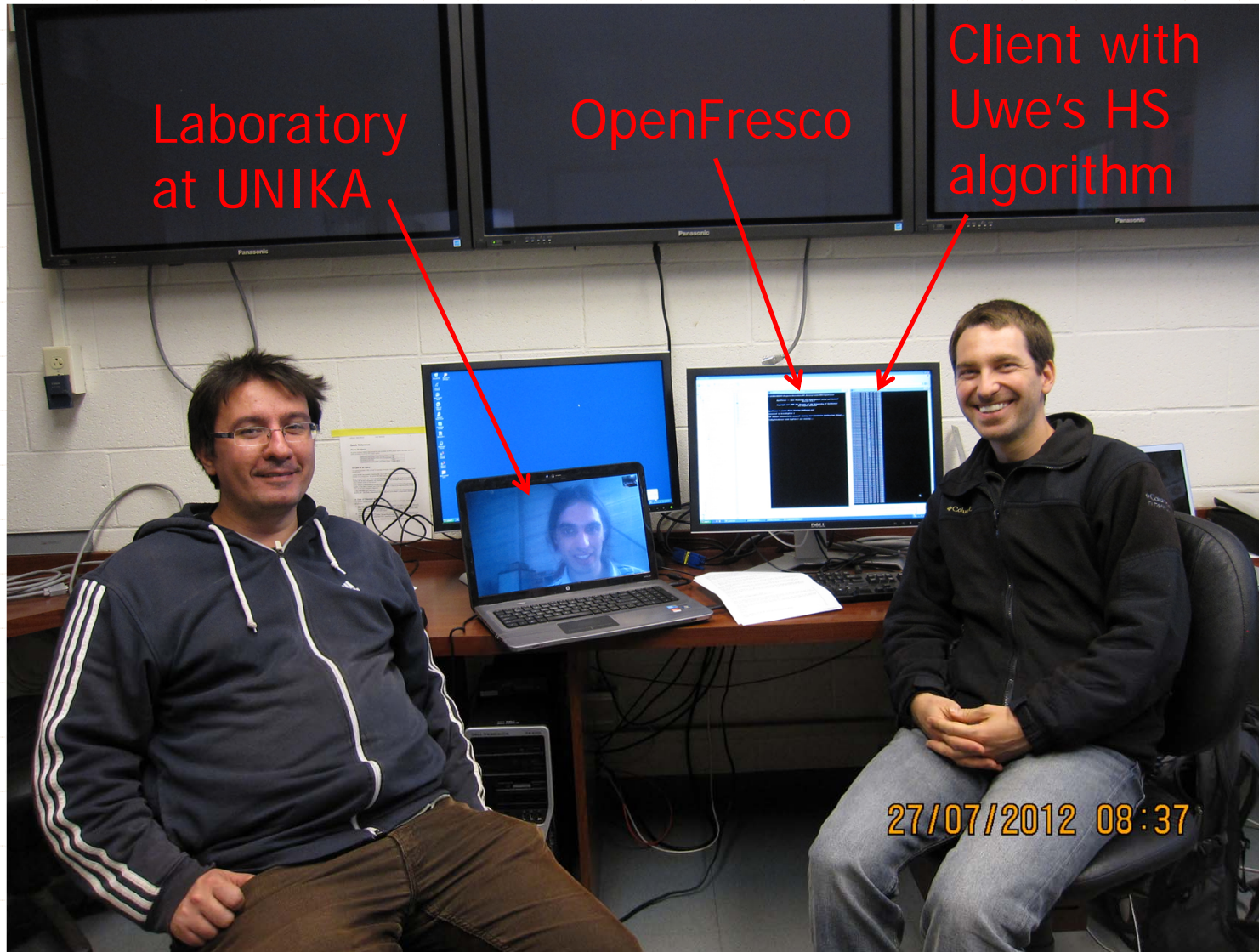
Test Parameters

✦ In-lab simulation time step of 1 sec, which means that the 1600 step long test took ~ 27 min.

✦ The integration time step was 0.01 sec, so we ran the test 100 times slower than real time.

✦ Uwe's algorithm was set to use 4 sub-steps and the network round trip time was ~ 0.2 sec.

Some Result Screenshots

Displacement

Friction Force

Adwin Controller Panel

UHYDE-fbr

2 different air pressures

OpenFresco