



TAMPERE UNIVERSITY OF TECHNOLOGY

Faculty of Built Environment
Department of Structural Engineering
Research Centre of Metal Structures

Vipuvoimaa

EU:lta

2007-2013



Euroopan unioni
Euroopan aluekehitysrahasto

Research seminar

Recent advances in building optimization

When and where:

Wednesday 18th January 2012, Tampere, Hervanta, TUT, room RN 201

Program:

09.00-9.30 Coffee

9.30-9.40 Welcome

Prof. Markku Heinisuo, Tampere University of Technology (TUT)

9.40-10.40 Design, fabrication and economy of steel structures

Prof. Karoly Jarmai, Miskolc University, Hungary

10.40-11.40 Systems Modeling, Performance-oriented Design and Architecture

Dr. Philipp Geyer, Technische Universität München, Germany

11.40-12.30 Lunch in Campus restaurants, paid byself

12.30-13.00 Single family house optimization

Mr. Teemu Tiainen, TUT

13.00-13.30 Cost functions for optimization of steel structures

Mr. Jaakko Haapio, Metso Power Oy, Finland

13.30-14.00 Topology optimization of structures

Mr. Kristo Mela, TUT

14.00-14.30 Coffee

14.30-15.00 Optimization of wooden structures

Dr. Jussi Jalkanen, KPM-Engineering Oy, Finland

15.00-15.30 Optimization of the energy efficiency of the buildings - Thermal insulation and HVAC-system, Prof. Timo Kalema, TUT

15.30-16.00 Discussion and closure

Prof. Markku Heinisuo, TUT

Registration before 31.12.2011: mauri.laasonen@tut.fi

Wellcome

Markku Heinisuo

Professor of Metal Structures, Tel: +358 40 596 5826

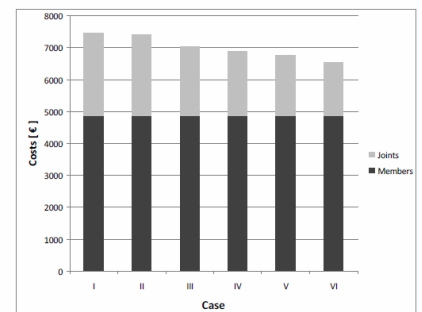
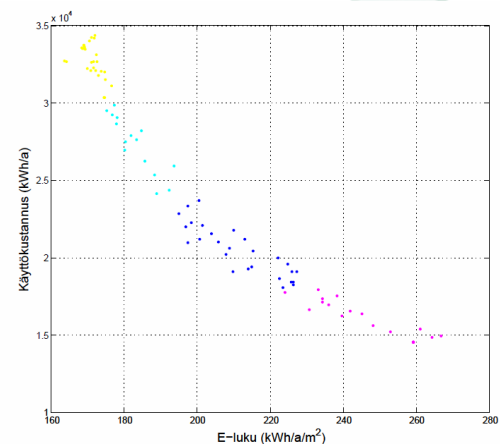


Fig. 12. Costs of frames



```

eluku = Range.value;
invoke(Excel.ActiveWorkbook, 'Save');
Excel.Quit
Excel.delete
clear Excel

% mukavuus = neliöt + 5*ikkunaneliöt x 5 + huonekork
mukavuus = -(x(8)*x(9) + 5*x(12)*x(8)*x(9)+5*x(7));

% käyttökulu
kaytto = eluku*x(8)*x(9);

% varmistetaan sakolla, ettei ikkunapinta-alaa ole enemmän kuin seinäpinta-
%alaa
if a(6)*ikkuna(a(7),1)*ikkuna(a(7),2) > x(7)*((x(8)-rakpaksuus_seina)+...
(x(9)-rakpaksuus_seina))
    mukavuus = 100;
end

% kootaan kohdefunktiot yhteen vektoriin
f = [kust_tyo kust_mat eluku mukavuus kaytto];
    
```