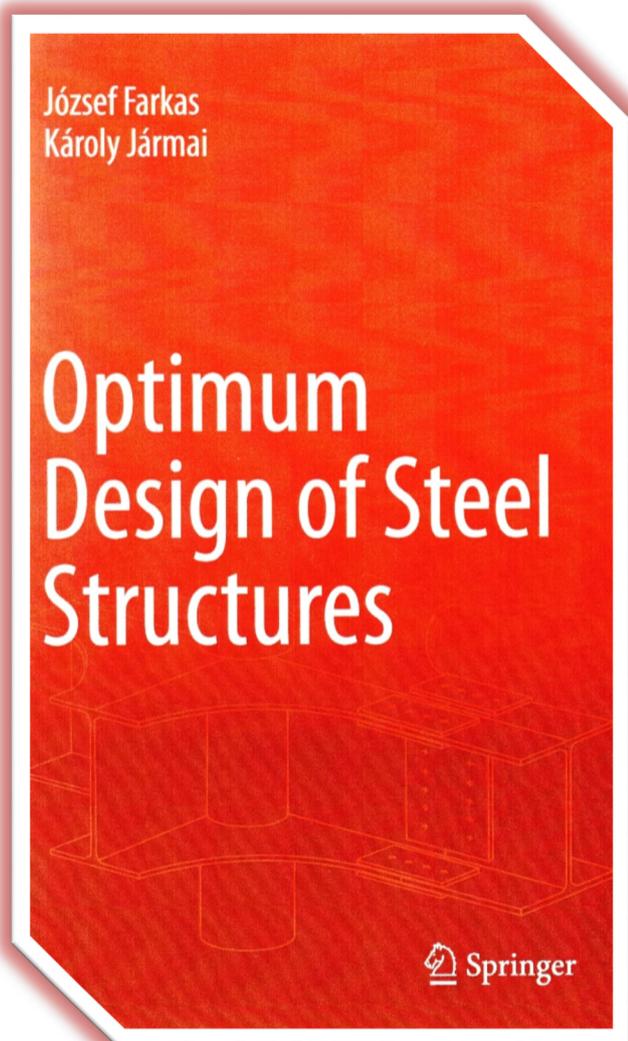*Technical Book Rewiew*

József FARKAS, Károly JÁRMAI: OPTIMUM DESIGN OF STEEL STRUCTURES

Dr. József FARKAS, Professor Emeritus of Metal Structures,
Dr. Károly JÁRMAI, Professor of Structural Engineering
– University of Miskolc, HUNGARY

This very useful book is carried out on 268 pages, 8 chapters and 4 Appendixes. The authors, having a significant international recognition, started their investigations basied on the important role of the cost in the engineering structures' design.

The cost's comparison helps the engineers finding out the optimal solution, which can be the cheapest or the best conceived one.

The authors focused their researches on the welded structures, in order to minimize their cost. In this sense, there are analysed meticulously: beams, tubular trusses, frames, stiffened plates, respectively shells; all of them are illustrated with numerical examples.

The main aim of this book consists of giving to designers and manufacturers useful aspects in order to finding out the optimal (the best) structural solution. It is well-known fact that a lot of structural versions fulfil the design and fabrication constrains, from where one can select the best one. In this sense, a suitable cost function offers a significant help, since a modern structure has to be not only safe and fit for production but also economic.

The meticulously-presented modern mathematical methods offer a significant help in finding out the best solution, based on the relevant international standards (Eurocodes and American ones) in the design constrains' formulation.

In Chapter 1 the authors offer a survey on their internationally recognised experiences in this field of the structural optimisation over several years.

The Chapter 2 is dedicated to the newer mathematical methods involved in the structural optimisation; respectively the Chapter 3 deals the effective cost calculation, together with several useful conclusions.

The authors analyse successively the optimal solutions for: the beams and columns (in Chapter 4); the tubular trusses (in Chapter 5); the frames (in Chapter 6); the stiffened plates (in Chapter 7), respectively for the cylindrical and conical shells (in Chapter 8).

Four useful Appendixes, numerous references, subject list and name index close this very valuable book.

Universitatea Politehnica Timisoara

Subsequently, on can put in evidence, between others, the following significant studies of the authors on the optimum design for minimum weight or cost: the fire design of a welded box beam (in Chapter 4); the transmission line tower worked out a s a welded tubular truss (in Chapter 5); the earthquake-resistant design of the braced frames (in Chapter 6); the storage tank roof, obtained from welded stiffened sectorial plates (in Chapter 7), respectively the ring-stiffened cylindrical and conical shells analysis (in Chapter 8).

The above-mentioned book is heartily recommended both to students, researches, designers and to manufacturers in order to finding the better, optimal and most competitive structural solutions.

Prof.univ.Dr.Ing. Ioan SZÁVA
Universitatea "Transilvania" din Braşov, ROMANIA
&
Prof.univ.em.Dr.Ing. Mircea BEJAN
Universitatea Tehnică din Cluj Napoca, ROMANIA