
Parking Shade


New Arc Sheet Soule


Industrial Soule


New Arc Pipe Soule


Structure Design

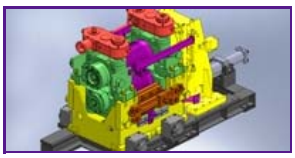

Billboard Design


Foot Bridge Design


Bridge Construction


Crane Structure Design

Shop Drawing


Mechanical Part Design


Composite Structure

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English Page

Activity:

Steel Structures Design
Advanced Composite Structures Design
Manufacuring of the Composite Structures
Civil Structures Design
Mechanical Components Design
Several Type of Soleh with New Structure

This website is trying to introduce, present and share engineering knowledge about structures including technical reports, papers and data about design, analysis and optimization of structures. One part of the website is a brief example of my hands-on experience in providing technical and engineering services on design and analysis of composite structures. The documents and data of the engineering projects and the scientific researches and papers I have done are also available in summary or full under Projects section. My educational background and a brief history of my work experience can also be found under "Papers" & "Main page" section. These documents are available more in Farsi.

About Optimum Structuers:

Nowadays design and development of hyper structures in architectural, mechanical, aerospace and off-shore projects are increasing. Putting a new record on the length, weight or strength by newly developed structures is quite often. high rise buildings and big bridges with beautiful or sometimes unusual architecture, oil-decks with weight of thousands of tons, big ships, cranes with high loading capacity, big excavation systems, big cargo or passenger airplanes are samples of hyper structures.

Development of hardware and high speed computers along with powerful and reliable software to design and analyze the structures has been one of the key points to improve structures and increase their usage. Accurate result generated by sophisticated software has enabled fast design optimization and improvement. Accordingly improved materials with better required characteristics, new alloys of metals or composites are now available for different applications.

Today, we understand more than ever that sources of fossil energy (oil, gas, coal) are getting close to their end. So the interest to use new and unlimited source of clean energies such as sunlight, wind and wave are increase. This type of energy is now generated and used in a more optimized way than before.

We believe that the new generation of structures must be designed and made more optimized, green and energy saver than before in order to save the earth and share the sources of energies with future generations. Compared to fossil energy, new sources of energy would be more costly so the best optimized way of using it should be applied to cars, airplanes, building etc.

Some Optimum! Questions:

What are the main characteristics of an optimized structure?

Perhaps there ara many questions in the mind of every structure engineer or reaserchers, for example:

1-1: What is our understanding of the optimized structures available in the nature, and how much could we really copy the idea behind them to design our structures?

1-2: Are all of the structures in the nature fully optimized?

1-3: Is the optimization in the nature a permanent and continues process?

1-4: What are the characteristics of the optimized structures in the nature?

1-5: Does the follow-up and compatibility to the nature lead us to any type of optimization?

2-1: Is there only one and unique optimized structure for every specific problem? Can get to this solution?

2-2: How much are the share of each parameter in an optimized structure (materials, loading, and constraint)?

2-3: Is the optimized structure for loading essentially the lightest structure?

2-4: Is any ratio between dimensions of components inside an optimized structure?

2-5: Are the characteristics of an optimized wooden and an optimized metallic structure generally the same?

3-1: Is an optimized structure made of components independently optimized?

3-2: Or, does optimization of a structure lead to optimized single components?

3-3: Is there any optimum infrastructure for an optimum structure?

3-4: How much accurate and reliable are the outputs of the optimization of a structure?

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