

Hauke Springer

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TU Wien, Institut für Angewandte Physik, E134
1040 Wien, Wiedner Hauptstraße 8-10
Yellow Tower „B“, 5th floor, SEM.R. DB gelb 05 B



Steel alloy design – from fundamentals to recent developments

As steels are cost efficient, environmentally friendly and have a wide range of achievable properties, they have been the most commonly used metallic material for structural applications worldwide for centuries. In this talk it is shown how recent innovations and developments ensure this prevalence by opening new dimensionalities and property profiles. Following a short introduction to the underlying physical metallurgy design possibilities and strategies, selected highlights for novel lightweight design are presented: Aluminium containing martensitic steels combine ultra high strength with low density, while the tailored composite microstructures of so called high modulus steels allow for improving the specific stiffness. Fundamental scientific challenges and consequences for engineering applications are outlined and discussed.

All interested colleagues are welcome to this seminar lecture (45 min. presentation followed by discussion)

Friedrich Aumayr
(LVA-Leiter)

Markus Valtiner
(Seminar Chair)