

Conclusions

- Existing structural materials are not ideal for advanced nuclear energy systems due to their limited operating temperature windows
 - May produce technically viable design, but not with desired optimal economic attractiveness or safety margins
- Substantial improvement in the performance of structural materials can be achieved in a timely manner with a science-based approach
- Design of nanoscale features in structural materials confers improved mechanical strength and radiation resistance
 - Such nano-scale alloy tailoring is vital for development of radiation-resistant structural materials for advanced fission and fusion reactors