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Average-atom-type models for warm dense matter

Wednesday 14 September 2022 14:30 (45 minutes)

Material properties of warm dense matter, like equation of state and conductivity, are needed for modeling stars, fusion plasmas, and high-energy-density experiments. Since the beginning of this field, average atom models have been used to provide such data. In this talk, I will give an abridged introduction, historical perspective, and review of modern average atom models and methods. I will highlight their strengths and discuss recent approaches to improvements on both the physical model and numerical stability.

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