

Finite temperature dynamics in 1D correlated systems

X. Zotos*

Department of Physics, University of Crete and Foundation for Research and
Technology-Hellas, P.O. Box 2208, 71003 Heraklion, Greece

* Electronic Address: zotos@physics.uoc.gr

In this presentation, I will focus on recent theoretical[1] and experimental developments on the finite temperature dynamic properties of classical and quantum strongly correlated systems. In particular, in the context of prototype models as the classical Toda chain[2], the quantum spin-1/2, 1, 2-leg ladder and classical Heisenberg models[3, 4, 5], I will discuss the role of integrability, conservation laws[6] and robustness to perturbations.

-
- [1] X. Zotos and P. Prelovsek, in "Strong Interactions in Low Dimensions", series "Physics and Chemistry of Materials with Low Dimensional Structures", eds. D. Baeriswyl and L. Degiorgi, Kluwer Academic Publishers (2004).
 - [2] X. Zotos, Journal of Low Temperature Physics, **126**, 1185 (2002).
 - [3] X. Zotos, Physical Review Letters **82**, 1764 (1999).
 - [4] J. Karadamoglou and X. Zotos, Physical Review Letters **93**, 177203 (2004).
 - [5] X. Zotos, Physical Review Letters **92**, 067202 (2004).
 - [6] X. Zotos, F. Naef and P. Prelovšek, Physical Review B**55**, 11029 (1997).