SES19-2019-000018

Abstract for an Invited Paper
for the SES19 Meeting of
the American Physical Society

**Physical aging in systems with glassy-like dynamics: from vortex matter to skyrmion systems**[1]

MICHEL PLEIMLING, Virginia Tech

This talk focuses on physical aging in two types of systems with slow, glassy-like dynamics: interacting magnetic flux lines in type-II superconductors [1,2] and interacting skyrmion matter [3,4]. In a previously equilibrated system, either the temperature is suddenly changed or the magnetic field is instantaneously altered. The subsequent aging properties are investigated in samples with various types of defects, which allows to distinguish the complex relaxation features that result from the different types of pinning. Two-time correlation functions are analyzed to study the non-linear stochastic relaxation dynamics in the aging regime.

[1] H. Assi, H. Chaturvedi, U. Dobramysl, M. Pleimling, and U. C. Täuber, Phys. Rev. E 92, 052124 (2015)
[2] H. Chaturvedi, N. Galliher, U. Dobramysl, M. Pleimling, and U. C. Täuber, Eur. Phys. J. B. 91, 294 (2018)
[3] B. L. Brown, U. C. Täuber, and M. Pleimling, Phys. Rev. B 97, 020405(R) (2018)
[4] B. L. Brown, U. C. Täuber, and M. Pleimling, Phys. Rev. B 100, 024410 (2019)

[1]This work was supported by the U.S. Department of Energy, Office of Basic Energy Sciences, Division of Materials Sciences and Engineering, under Grant No. DE-FG02-09ER46613.