

INTRINSIC MODES (SYIM)

Jointly organized by
 Magnetism (MA)
 Low Temperature Physics (TT)
 Dynamics and Statistical Physics (DY)

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The concept of intrinsic localized modes (ILM) also coined discrete breathers (DB) in non-linear spatially discrete or strongly modulated systems has been studied intensively over the past decade. While the focus was initially on theoretical aspects, experiments soon moved into the game, in such seemingly different fields like solid state physics, nonlinear optics, micromechanics, ultracold atomic gases (Bose-Einstein condensates), and biological physics, among others (see Physics Today January 2004 pp.43-49).

The speakers of our symposium will present the latest results on their experimental and theoretical studies of ILMs/DBs, especially focussing on spectroscopical tools, the interaction of ILMs with delocalized states, and the quantization of DBs, among others.

OVERVIEW OF INVITED TALKS AND SESSIONS

(lecture room HSZ 04)

Invited Talks

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|----------|-----|-------|----------|--|
| SYIM 1.1 | Thu | 14:30 | (HSZ 04) | Energy Transport and Vibrational Self-Trapping in Peptide Models and Peptide Helices , <u>Peter Hamm</u> |
| SYIM 1.2 | Thu | 15:00 | (HSZ 04) | Can we predict DNA biological activity from the study of its local fluctuations? , <u>Michel Peyrard</u> , T.S. van Erp, S. Cuesta-Lopez, J.-G. Hagmann |
| SYIM 1.3 | Thu | 15:30 | (HSZ 04) | Generating and shepherding intrinsic localized modes in macroscopic and microscopic lattices , <u>Albert J. Sievers</u> |
| SYIM 1.4 | Thu | 16:00 | (HSZ 04) | Discrete Breathers: dynamical localization in nonlinear lattices , <u>Andrey Gorbach</u> |
| SYIM 2.1 | Thu | 17:00 | (HSZ 04) | Anomalous decay in doped alkali halides: Breather-induced impediments to relaxation , <u>Lawrence S. Schulman</u> |
| SYIM 2.2 | Thu | 17:30 | (HSZ 04) | Intrinsically Localized Modes in Josephson Arrays , <u>Ken Segall</u> |
| SYIM 2.3 | Thu | 18:00 | (HSZ 04) | Localized matter waves , <u>Markus Oberthaler</u> |

Sessions

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|--------|---------------------------|-----------------|--------|--------------|
| SYIM 1 | Intrinsic Modes I | Thu 14:30–16:30 | HSZ 04 | SYIM 1.1–1.4 |
| SYIM 2 | Intrinsic Modes II | Thu 17:00–18:30 | HSZ 04 | SYIM 2.1–2.3 |