

# Contents

<b>1</b>	<b>Introductory Comments</b>	1
<b>2</b>	<b>(Non-)Dissipative Effects?</b>	5
<b>3</b>	<b>On the Stationary Distribution</b>	9
3.1	The Difference Between a Lake and a River	12
3.2	From the Uniform to a Peaked Distribution	12
3.3	Heat Bounds	14
3.4	Population Inversion	15
3.5	Variational Principles	16
3.6	Recent Examples	18
3.6.1	Demixing	18
3.6.2	No Thermodynamic Pressure	18
<b>4</b>	<b>Transport Properties</b>	19
4.1	Current Direction Decided by Time-Symmetric Factors	19
4.2	Negative Differential Conductivity	24
4.3	Death and Resurrection of a Current	25
<b>5</b>	<b>Response</b>	27
5.1	Standard Fluctuation–Dissipation Relation	27
5.2	Enters Dynamical Activity	30
5.3	Second Order Response	31
5.4	Breaking of Local Detailed Balance	33
<b>6</b>	<b>Frenetic Bounds to Dissipation Rates</b>	35
<b>7</b>	<b>Symmetry Breaking</b>	41

<b>8 Frenometry</b> . . . . .	45
8.1 Reactivities, Escape Rates . . . . .	46
8.2 Non-gradient Aspects Are Non-dissipative . . . . .	46
<b>9 Conclusions</b> . . . . .	49
<b>References</b> . . . . .	51

Non-Dissipative Effects in Nonequilibrium Systems

Maes, C.

2018, VII, 53 p. 15 illus., 14 illus. in color., Softcover

ISBN: 978-3-319-67779-8