

Contents

1	Toward Gravitational Wave Astronomy	1
	Giovanni Losurdo	
2	The Science Case for Advanced Gravitational Wave Detectors. . .	21
	Andrea Viceré	
3	Interferometer Configurations.	57
	Gabriele Vajente	
4	Pre-stabilized Lasers for Advanced Detectors	97
	C.-Nary Man	
5	Input Optics System	115
	Matteo Tacca	
6	Readout, Sensing, and Control	153
	Gabriele Vajente	
7	An Introduction to the Virgo Suspension System	193
	Franco Frasconi and Piero Rapagnani	
8	Thermal Noise in Laser Interferometer Gravitational Wave Detectors	225
	Raffaele Flaminio	
9	Thermal Effects and Other Wavefront Aberrations in Recycling Cavities	251
	Alessio Rocchi	
10	Stray Light Issues.	275
	Julien Marque and Gabriele Vajente	

11	A Basic Introduction to Quantum Noise and Quantum-Non-Demolition Techniques	291
	Stefan Hild	
12	The Parametric Instability in Advanced Gravitational-Wave Interferometers	315
	Pierre-François Cohadon and Slawomir Gras	
13	A Third Generation Gravitational Wave Observatory: The Einstein Telescope	333
	Michele Punturo, Harald Lück and Mark Beker	
14	Low Temperature and Gravitation Wave Detectors.	363
	Fulvio Ricci	

Advanced Interferometers and the Search for
Gravitational Waves
Lectures from the First VESF School on Advanced
Detectors for Gravitational Waves
Bassan, M. (Ed.)
2014, XII, 387 p. 223 illus., Hardcover
ISBN: 978-3-319-03791-2