Michèle Heurs

Publication list (24.11.2021)

212. R. Abbott, . . . , M. Heurs, . . . : *All-sky search for long-duration gravitational-wave bursts in the third Advanced LIGO and Advanced Virgo run*, Phys. Rev. D, **104**, 102001 (2021)

211. R. Abbott, . . . , M. Heurs, . . . : *All-sky search for continuous gravitational waves from isolated neutron stars in the early O3 LIGO data*, Phys. Rev. D, **104**, 082004 (2021)

210. R. Abbott, . . . , M. Heurs, . . . : *Upper limits on the isotropic gravitational-wave background from Advanced LIGO and Advanced Virgo's third observing run*, Phys. Rev. D, **104**, 022004 (2021)

209. R. Abbott, . . . , M. Heurs, . . . : *Observation of Gravitational Waves from Two Neutron Star–Black Hole Coalescences*, The Astrophysical Journal Letters, **915**:L5 (2021)

208. R. Abbott et al.* (LIGO Scientific Collaboration, Virgo Collaboration, and KAGRA Collaboration): *Constraints on Cosmic Strings Using Data from the Third Advanced LIGO–Virgo Observing Run*, Physical Review Letters **126** 241102 (2021)

207. R. Abbott et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration): *Tests of general relativity with binary black holes from the second LIGO-Virgo gravitational-wave transient catalog*, Physical Review D **103** 122002 (2021)

206. R. Abbott et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration): *GWTC-2: Compact Binary Coalescences Observed by LIGO and Virgo during the First Half of the Third Observing Run*, Physical Review X **11** 021053 (2021)

205. R. Abbott, . . . , M. Heurs, . . . : *Population Properties of Compact Objects from the Second LIGO–Virgo Gravitational-Wave Transient Catalog*, The Astrophysical Journal Letters, **913**:L7 (2021)

204. R. Abbott, . . . , M. Heurs, . . . : *Diving below the Spin-down Limit: Constraints on Gravitational Waves from the Energetic Young Pulsar PSR J0537-6910*, The Astrophysical Journal Letters, **913**:L27 (2021)

203. B. P. Abbott, . . . , M. Heurs, . . . : *A Gravitational-wave Measurement of the Hubble Constant Following the Second Observing Run of Advanced LIGO and Virgo*, The Astrophysical Journal, **909**:218 (2021)

202. R. Abbott et al.* (The LIGO Scientific Collaboration and the Virgo Collaboration): *All-sky search in early O3 LIGO data for continuous gravitational-wave signals from unknown neutron stars in binary systems*, Physical Review D **103** 064017 (2021)

201. J. Junker, D. Wilken, E. H. Huntington, and **M. Heurs**: *High-precision cavity spectroscopy using high-frequency squeezed light*, Opt. Express **29** 6053-6068 (2021)

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200. R. Abbott, ..., M. Heurs, ...: *Open data from the first and second observing runs of Advanced LIGO and Advanced Virgo*, SoftwareX, **13** 100658 (2021)

199. R. Abbott, ..., M. Heurs, ...: *Gravitational-wave Constraints on the Equatorial Ellipticity of Millisecond Pulsars*, The Astrophysical Journal Letters, **902**:L21 (2020)

198. A. Evlyukhin, M. Matiushechkina, V. A. Zenin, **M. Heurs**, and B. N. Chichkov: *Lightweight metasurface mirror of silicon nanospheres [Invited]*, Optical Materials Express **10** 10 (2020)

197. R. Abbott et al.* (LIGO Scientific Collaboration and Virgo Collaboration) ...: *GW190412: Observation of a binary-black-hole coalescence with asymmetric masses*, Physical Review D, **102**, 043015 (2020)

196. B. P. Abbott, ..., M. Heurs, ...: *GW190425: Observation of a Compact Binary Coalescence with Total Mass ~3.4* $M_\odot$, The Astrophysical Journal Letters, **892** (1) L3 (2020)

195. B. P. Abbott, ..., M. Heurs, ...: *GW190521: A Binary Black Hole Merger with a Total Mass of 150* $M_\odot$, Physical Review Letters **125** (10) (2020)

194. R. Abbott, ..., M. Heurs, ...: *Properties and Astrophysical Implications of the 150* $M_\odot$ *Binary Black Hole Merger GW190521*, The Astrophysical Journal Letters, **900** (1) L13 (2020)

193. R. Abbott, ..., M. Heurs, ...: *GW190814: Gravitational Waves from the Coalescence of a 23 Solar Mass Black Hole with a 2.6 Solar Mass Compact Object*, The Astrophysical Journal Letters, **896** (2020)

192. R. Hamburg, ..., M. Heurs, ...: *A Joint Fermi-GBM and LIGO/Virgo Analysis of Compact Binary Mergers from the First and Second Gravitational-wave Observing Runs*, The Astrophysical Journal **893** (2) (2020)

191. B. P. Abbott, ..., M. Heurs, ...: *Optically targeted search for gravitational waves emitted by core-collapse supernovae during the first and second observing runs of advanced LIGO and advanced Virgo*, Physical Review D **101** (8) (2020)

190. B. P. Abbott, ..., M. Heurs, ...: *A guide to LIGO–Virgo detector noise and extraction of transient gravitational-wave signals*, Classical and quantum gravity **37** (5) (2020)

189. B. P. Abbott, ..., M. Heurs, ...: *Model comparison from LIGO–Virgo data on GW170817's binary components and consequences for the merger remnant*, Classical and quantum gravity **37** (4) (2020)

188. B. P. Abbott, ..., M. Heurs, ...: *Search for gravitational waves from Scorpius X-1 in the second Advanced LIGO observing run with an improved hidden Markov model*, Physical Review D **100** (12) (2019)

187. B. P. Abbott, ..., M. Heurs, ...: *Search for Gravitational-wave Signals Associated with Gamma-Ray Bursts during the Second Observing Run of Advanced LIGO and Advanced Virgo*, The Astrophysical Journal **886** (1) (2019)

186. B. P. Abbott, ..., M. Heurs, ...: *Tests of general relativity with the binary black hole signals from the LIGO-Virgo catalog GWTC-1*, Physical Review D **100** (10) (2019)

185. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Subsolar Mass Ultracompact Binaries in Advanced LIGO's Second Observing Run*, Physical Review Letters **123** (16) (2019)

184. B. P. Abbott, . . . , M. Heurs, . . . : *Search for intermediate mass black hole binaries in the first and second observing runs of the Advanced LIGO and Virgo network*, Physical Review D **100** (6) (2019)

183. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Eccentric Binary Black Hole Mergers with Advanced LIGO and Advanced Virgo during Their First and Second Observing Runs*, The Astrophysical Journal **883** (2) (2019)

182. B. P. Abbott, . . . , M. Heurs, . . . : *Binary Black Hole Population Properties Inferred from the First and Second Observing Runs of Advanced LIGO and Advanced Virgo*, The Astrophysical Journal Letters **882** (2) (2019)

181. B. P. Abbott, . . . , M. Heurs, . . . : *Search for the isotropic stochastic background using data from Advanced LIGO's second observing run*, Physical Review D **100** (6) (2019)

180. B. P. Abbott, . . . , M. Heurs, . . . : *GWTC-1: A Gravitational-Wave Transient Catalog of Compact Binary Mergers Observed by LIGO and Virgo during the First and Second Observing Runs*, Physical Review X **9** (3) (2019)

179. B. P. Abbott, . . . , M. Heurs, . . . : *All-sky search for short gravitational-wave bursts in the second Advanced LIGO and Advanced Virgo run*, Physical Review D **100** (2) (2019)

178. B. P. Abbott, . . . , M. Heurs, . . . : *All-sky search for continuous gravitational waves from isolated neutron stars using Advanced LIGO O2 data*, Physical Review D **100** (2) (2019)

177. B. P. Abbott, . . . , M. Heurs, . . . : *Tests of General Relativity with GW170817* , Physical Review Letters **123** (1) (2019)

176. B. P. Abbott, . . . , M. Heurs, . . . : *Searches for Gravitational Waves from Known Pulsars at Two Harmonics in 2015-2017 LIGO Data*, Astrophysical Journal **879** (1) (2019)

175. B. P. Abbott, . . . , M. Heurs, . . . : *Narrow-band search for gravitational waves from known pulsars using the second LIGO observing run*, Physical Review D **99** (12) (2019)

174. B. P. Abbott, . . . , M. Heurs, . . . : *All-sky search for long-duration gravitational-wave transients in the second Advanced LIGO observing run*, Physical Review D **99** (10) (2019)

173. M. Soares-Santos, A. Palmese, . . . , M. Heurs, . . . : *First Measurement of the Hubble Constant from a Dark Standard Siren using the Dark Energy Survey Galaxies and the LIGO/Virgo Binary-Black-hole Merger GW170814*, Astrophysical Journal Letters **876** (1) (2019)

172. B. P. Abbott, . . . , M. Heurs, . . . : *Low-latency Gravitational-wave Alerts for Multimessenger Astronomy during the Second Advanced LIGO and Virgo Observing Run*, Astrophysical Journal **875** (2) (2019)

171. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Gravitational Waves from a Long-lived Remnant of the Binary Neutron Star Merger GW170817*, Astrophysical Journal **875** (2) (2019)

170. B. P. Abbott, . . . , M. Heurs, . . . : *Searches for Continuous Gravitational Waves from 15 Supernova Remnants and Fomalhaut b with Advanced LIGO*, Astrophysical Journal **875** (2) (2019)

169. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Transient Gravitational-wave Signals Associated with Magnetar Bursts during Advanced LIGO's Second Observing Run*, Astrophysical Journal **874** (2) (2019)

168. B. P. Abbott, . . . , M. Heurs, . . . : *Constraining the p-Mode-g-Mode Tidal Instability with GW170817* , Physical Review Letters **122** (6) (2019)

167. Burns, E. Goldstein . . . , M. Heurs, . . . : *A Fermi Gamma-Ray Burst Monitor Search for Electromagnetic Signals Coincident with Gravitational-wave Candidates in Advanced LIGO's First Observing Run*, Astrophysical Journal **871** (1) (2019)

166. A. Albert, M. Andre . . . , M. Heurs, . . . : *Search for Multimessenger Sources of Gravitational Waves and High-energy Neutrinos with Advanced LIGO during Its First Observing Run, ANTARES, and IceCube* , Astrophysical Journal **870** (2) (2019)

165. B. P. Abbott, . . . , M. Heurs, . . . : *Properties of the Binary Neutron Star Merger GW170817* , Physical Review X **9** (1) (2019)

164. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Subsolar-Mass Ultracompact Binaries in Advanced LIGO's First Observing Run* , Physical Review Letters **121** (23) (2018)

163. B. P. Abbott, . . . , M. Heurs, . . . : *GW170817: Measurements of Neutron Star Radii and Equation of State* , Physical Review Letters **121** (16) (2018)

162. **M. Heurs**: *Gravitational wave detection using laser interferometry beyond the standard quantum limit* , PHILOSOPHICAL TRANSACTIONS OF THE ROYAL SOCIETY A-MATHEMATICAL PHYSICAL AND ENGINEERING SCIENCES **376** (2120) (2018)

161. B. P. Abbott, . . . , M. Heurs, . . . : *Search for Tensor, Vector, and Scalar Polarizations in the Stochastic Gravitational-Wave Background*, Physical Review Letters **120** (20) (2018)

160. B. P. Abbott, . . . , M. Heurs, . . . : *Full band all-sky search for periodic gravitational waves in the O1 LIGO data*, Physical Review D **97** (10) (2018)

159. B. P. Abbott, . . . , M. Heurs, . . . : *Constraints on cosmic strings using data from the first Advanced LIGO observing run*, Physical Review D **97** (10) (2018)

158. B. P. Abbott, . . . , M. Heurs, . . . : *Prospects for observing and localizing gravitational-wave transients with Advanced LIGO, Advanced Virgo and KAGRA* , Living reviews in relativity **21** (3) (2018)

157. B. P. Abbott, . . . , M. Heurs, . . . : *Effects of data quality vetoes on a search for compact binary coalescences in Advanced LIGO's first observing run*, Classical and quantum gravity **35** (6) (2018)

156. B. P. Abbott, . . . , M. Heurs, . . . : *All-sky search for long-duration gravitational wave transients in the first Advanced LIGO observing run*, Classical and quantum gravity **35** (6) (2018)

155. B. P. Abbott, . . . , M. Heurs, . . . : *GW170817: Implications for the Stochastic Gravitational-Wave Background from Compact Binary Coalescences*, Physical review letters **120** (9) (2018)

154. B. P. Abbott, ..., M. Heurs, ...: *First Search for Nontensorial Gravitational Waves from Known Pulsars*, Physical review letters **120** (3) (2018)

153. B. P. Abbott, ..., M. Heurs, ...: *First narrow-band search for continuous gravitational waves from known pulsars in advanced detector data*, Physical Review D **96** (12) (2017)

152. B. P. Abbott, ..., M. Heurs, ...: *GW170608: Observation of a 19 Solar-mass Binary Black Hole Coalescence*, Astrophysical Journal Letters **851** (2) (2017)

151. B. P. Abbott, ..., M. Heurs, ...: *First Search for Gravitational Waves from Known Pulsars with Advanced LIGO (vol 839, 12, 2017)*, Astrophysical Journal **851** (1) (2017)

150. B. P. Abbott, ..., M. Heurs, ...: *Search for Post-merger Gravitational Waves from the Remnant of the Binary Neutron Star Merger GW170817*, Astrophysical Journal Letters **851** (1) (2017)

149. B. P. Abbott, ..., M. Heurs, ...: *First low-frequency Einstein@Home all-sky search for continuous gravitational waves in Advanced LIGO data*, Physical Review D **96** (12) (2017)

148. B. P. Abbott, ..., M. Heurs, ...: *On the Progenitor of Binary Neutron Star Merger GW170817*, Astrophysical Journal Letters **850** (2) (2017)

147. B. P. Abbott, ..., M. Heurs, ...: *Estimating the Contribution of Dynamical Ejecta in the Kilonova Associated with GW170817*, Astrophysical Journal Letters **850** (2) (2017)

146. A. Albert, M. Andre, ..., M. Heurs, ...: *Search for High-energy Neutrinos from Binary Neutron Star Merger GW170817 with ANTARES, IceCube, and the Pierre Auger Observatory*, Astrophysical Journal Letters **850** (2) (2017)

145. B. P. Abbott, ..., M. Heurs, ...: *A gravitational-wave standard siren measurement of the Hubble constant*, Nature **551** (7678) (2017)

144. B. P. Abbott, ..., M. Heurs, ...: *Multi-messenger Observations of a Binary Neutron Star Merger*, The Astrophysical Journal Letters **848** (2) (2017)

143. B. P. Abbott, ..., M. Heurs, ...: *Gravitational Waves und Gamma-Rays from a Binary Neutron Star Merger: GW170817 and GRB 170817A*, The Astrophysical Journal Letters **848** (2) (2017)

142. B. P. Abbott, ..., M. Heurs, ...: *GW170817: Observation of Gravitational Waves from a Binary Neutron Star Inspiral*, Physical Review Letters **119** (16) (2017)

141. B. P. Abbott, ..., M. Heurs, ...: *GW170817: A Three-Detector Observation of Gravitational Waves from a Binary Black Hole Coalescence*, Physical Review Letters **119** (14) (2017)

140. B. P. Abbott, ..., M. Heurs, ...: *GW170817: Upper Limits on Gravitational Waves from Scorpius X-1 from a Model-based Cross-correlation Search in Advanced LIGO Data*, Astrophysical Journal **847** (1) (2017)

139. B. P. Abbott, ..., M. Heurs, ...: *All-sky search for periodic gravitational waves in the O1 LIGO data*, Physical Review D **96** (6) (2017)

138. A. Albert, ..., M. Heurs, ...: *Search for high-energy neutrinos from gravitational wave event GW151226 and candidate LVT151012 with ANTARES and IceCube*, Physical Review D **96** (2) (2017)

137. B. P. Abbott, ..., M. Heurs, ...: *Search for intermediate mass black hole binaries in the first observing run of Advanced LIGO*, Physical Review D **96** (2) (2017)

136. B. P. Abbott, ..., M. Heurs, ...: *Search for gravitational waves from Scorpius X-1 in the first Advanced LIGO observing run with the hidden Markov model*, Physical Review D **95** (12) (2017)

135. B. P. Abbott, ..., M. Heurs, ...: *Search for Gravitational Waves Associated with Gamma-Ray Bursts during the First Advanced LIGO Observing Run and Implications for the Origin of GRB 150906B*, Astrophysical Journal **841** (2) (2017)

134. B. P. Abbott, ..., M. Heurs, ...: *GW170104: Observation of a 50-Solar-Mass Binary Black Hole Coalescence at Redshift 0.2*, Physical Review Letters **118** (22) (2017)

133. B. P. Abbott, ..., M. Heurs, ...: *Effects of waveform model systematics on the interpretation of GW150914*, Classical and Quantum Gravity **34** (10) (2017)

132. B. P. Abbott, ..., M. Heurs, ...: *Search for continuous gravitational waves from neutron stars in globular cluster NGC 6544*, Physical Review D **95** (8) (2017)

131. B. P. Abbott, ..., M. Heurs, ...: *First Search for Gravitational Waves from Known Pulsars with Advanced LIGO*, Astrophysical Journal **839** (1) (2017)

130. B. P. Abbott, ..., M. Heurs, ...: *Calibration of the Advanced LIGO detectors for the discovery of the binary black-hole merger GW150914*, Physical Review D **95** (6) (2017)

129. B. P. Abbott, ..., M. Heurs, ...: *Upper Limits on the Stochastic Gravitational-Wave Background from Advanced LIGO's First Observing Run*, Physical Review Letters **118** (12) (2017)

128. B. P. Abbott, ..., M. Heurs, ...: *Directional Limits on Persistent Gravitational Waves from Advanced LIGO's First Observing Run*, Physical Review Letters **118** (12) (2017)

127. B. P. Abbott, ..., M. Heurs, ...: *Exploring the sensitivity of next generation gravitational wave detectors*, Classical and Quantum Gravity **34** (4) (2017)

126. B. P. Abbott, ..., M. Heurs, ...: *All-sky search for short gravitational-wave bursts in the first Advanced LIGO run*, Physical Review D **95** (4) (2017)

125. B. P. Abbott, ..., M. Heurs, ...: *The basic physics of the binary black hole merger GW150914*, Annalen der Physik **529** (1-2) (2017)

124. D. Schütte, S. Z. Sayed Hassen, K. S. Karvinen, T. K. Boyson, A. G. Kallapur, H. Song, I. R. Petersen, E. H. Huntington, and **M. Heurs**: *Experimental demonstration of frequency auto-locking an optical cavity using a time-varying Kalman filter*, Phys. Rev. Appl. **5** (1) (2016)

123. B. P. Abbott, ..., M. Heurs, ...: *GW150914: Implications for the Stochastic Gravitational-Wave Background from Binary Black Holes*, Phys. Rev. Lett. **116** (13) (2016)

122. B. P. Abbott, ..., M. Heurs, ...: *GW150914: The Advanced LIGO Detectors in the Era of First Discoveries*, Phys. Rev. Lett. **116** (13) (2016)

121. B. P. Abbott, ..., M. Heurs, ...: *All-sky search for long-duration gravitational wave transients with initial LIGO*, Phys. Rev. D **93** (4) (2016)

120. B. P. Abbott, ..., M. Heurs, ...: *Astrophysical implications of the binary black hole merger GW150914*, The Astrophysical Journal Letters **818** (22) (2016)

119. B. P. Abbott, ..., M. Heurs, ...: *Observation of gravitational waves from a binary black hole merger*, Phys. Rev. Lett. **116** (6) (2016)

118. J. Aasi, ..., M. Heurs, ...: *Searches for continuous gravitational waves from nine young supernova remnants*, The Astrophysical Journal Letters **818** (L22) (2016)

117. B. P. Abbott, ..., M. Heurs, ...: *The rate of binary black hole mergers inferred from Advanced LIGO observations surrounding GW150914*, Astrophysical Journal Letters **833** (1) (2016)

116. B. P. Abbott, ..., M. Heurs, ...: *Supplement: "The rate of binary black hole mergers inferred from Advanced LIGO observations surrounding GW150914" (2016,ApJL, 833, L1)*, Astrophysical Journal Supplement Series **227** (2) (2016)

115. B. P. Abbott, ..., M. Heurs, ...: *Upper limits on the rates of binary neutron star and neutron star-black hole mergers from Advanced LIGO's first observing run*, Astrophysical Journal Letters **832** (2) (2016)

114. B. P. Abbott, ..., M. Heurs, ...: *Results of the deepest all-sky survey for continuous gravitational waves on LIGO S6 data running on the Einstein@Home volunteer distributed computing project*, Physical Review D **94** (10) (2016)

113. B. P. Abbott, ..., M. Heurs, ...: *First targeted search for gravitational-wave bursts from core-collapse supernovae in data of first-generation laser interferometer detectors*, Physical Review D **94** (10) (2016)

112. B. P. Abbott, ..., M. Heurs, ...: *Binary Black Hole Mergers in thee First Advanced LIGO Observing Run*, Physical Review X **6** (4) (2016)

111. B. P. Abbott, ..., M. Heurs, ...: *Improved Analysis of GW150914 Using a Fully Spin-Precessing Waveform Model*, Physical Review X **6** (4) (2016)

110. B. P. Abbott, ..., M. Heurs, ...: *Directly comparing GW150914 with numerical solutions of Einstein's equations for binary black hole coalescence*, Physical Review D **94** (6) (2016)

109. B. P. Abbott, ..., M. Heurs, ...: *Comprehensive all-sky search for periodic gravitational waves in the sixth science run LIGO data*, Physical Review D **94** (4) (2016)

108. B. P. Abbott, ..., M. Heurs, ...: *Localization and broadband follow-up of the gravitational-wave transient GW150914*, Astrophysical Journal Letters **826** (1) (2016)

107. B. P. Abbott, ..., M. Heurs, ...: *Characterization of transient noise in Advanced LIGO relevant to gravitational wave signal GW150914*, Classical and Quantum Gravity **33** (13) (2016)

106. B. P. Abbott, ..., M. Heurs, ...: *Supplement: "Localization and broadband follow-up of the gravitational-wave transient GW150914" (2016, ApJL, 826, L13)*, Astrophysical Journal Supplement Series **225** (1) (2016)

105. S. Adrian-Martinez, ..., M. Heurs, ...: *High-energy neutrino follow-up search of gravitational wave event GW150914 with ANTARES and IceCube*, Physical Review D **93** (12) (2016)

104. B. P. Abbott, ..., M. Heurs, ...: *Search for transient gravitational waves in coincidence with short-duration radio transients during 2007-2013*, Physical Review D **93** (12) (2016)

103. B. P. Abbott, ..., M. Heurs, ...: *GW151226: Observation of Gravitational Waves from a 22-Solar-Mass Binary Black Hole Coalescence*, Physical Review Letters **116** (24) (2016)

102. B. P. Abbott, ..., M. Heurs, ...: *Properties of the Binary Black Hole Merger GW150914*, Physical Review Letters **116** (24) (2016)

101. B. P. Abbott, ..., M. Heurs, ...: *GW150914: First results from the search for binary black hole coalescence with Advanced LIGO*, Physical Review D **93** (12) (2016)

100. B. P. Abbott, ..., M. Heurs, ...: *Observing gravitational-wave transient GW150914 with minimal assumptions*, Physical Review D **93** (12) (2016)

99. B. P. Abbott, ..., M. Heurs, ...: *Tests of General Relativity with GW150914*, Physical Review Letters **116** (22) (2016)

98. J. Aasi, ..., M. Heurs, ...: *First low frequency all-sky search for continuous gravitational wave signals*, Physical Review D **93** (4) (2016)

97. J. Aasi, ..., M. Heurs, ...: *Search of the Orion spur for continuous gravitational waves using a loosely coherent algorithm on data from LIGO interferometers*, Physical Review D **93** (4) (2016)

96. B. P. Abbott, ..., M. Heurs, ...: *Prospects for Observing and Localizing Gravitational-Wave Transients with Advanced LIGO and Advanced Virgo*, Living Reviews in Relativity **19** (1) (2016)

95. T. Denker, D. Schütte, M. H. Wimmer, T. A. Wheatley, E. H. Huntington, **M. Heurs**: *Utilizing weak pump depletion to stabilize squeezed vacuum states*, Opt. Express **23** 132 (2015)

94. A. G. Kallapur, D. Schütte, I. R. Petersen, T. K. Boyson, E. H. Huntington, S. Z. S. Hassen, H. B. Song, **M. Heurs**: *Design and Implementation of an Optical Cavity Locking Controller Test Bed System*, IEEE T CONTR SYST T **23** (2) (2015)

93. J. Aasi, ..., M. Heurs, ...: *Searches for continuous gravitational waves from nine young supernova remnants*, The Astrophysical Journal **813** (39) (2015)

92. J. Aasi, ..., M. Heurs, ...: *Characterization of the LIGO detectors during their sixth science run*, Class. Quant. Grav. **32** (11) 115012 (2015)

91. J. Aasi, ..., M. Heurs, ...: *Advanced LIGO*, Class. Quant. Grav. **32** (7) 074001 (2015)

90. J. Aasi, ..., M. Heurs, ...: *Directed search for gravitational waves from Scorpius X-1 with initial LIGO data*, Phys. Rev. D **91** (6) UNSP 062008 (2015)

89. J. Aasi, ..., M. Heurs, ...: *Narrow-band search of continuous gravitational-wave signals from Crab and Vela pulsars in Virgo VSR4 data*, Phys. Rev. D **91** (2) 022004 (2015)

88. J. Aasi, ..., M. Heurs, ...: *Searching for stochastic gravitational waves using data from the two colocated LIGO Hanford detectors*, Phys. Rev. D **91** (2) 022003 (2015)

87. T. Denker, ..., **M. Heurs**, ...: *Stabilization of Squeezed Vacuum States Using Weak Pump Depletion*, Conference on Lasers and electro-Optics (CLEO) (2015)

86. H. Song, H. Yonezawa, K. B. Kuntz, **M. Heurs**, E. H. Huntington : *Quantum teleportation in space and frequency using entangled pairs of photons from a frequency comb*, Phys. Rev. A **90** (4) 042337 (2014)

85. M. H. Wimmer, D. Steinmeyer, K. Hammerer, **M. Heurs** : *Coherent cancellation of backaction noise in optomechanical force measurements*, Phys. Rev. A **89** (5) 053836 (2014)

84. J. Aasi, . . . , M. Heurs, . . . : *Improved Upper Limits on the Stochastic Gravitational-Wave Background from 2009-2010 LIGO and Virgo Data*, Phys. Rev. Lett. **113** (23) 231101 (2014)

83. M. Aartsen, . . . , M. Heurs, . . . : *Multimessenger search for sources of gravitational waves and high-energy neutrinos: Initial results for LIGO-Virgo and IceCube*, Phys. Rev. D **90** (10) UNSP 102002 (2014)

82. J. Aasi, . . . , M. Heurs, . . . : *First all-sky search for continuous gravitational waves from unknown sources in binary systems*, Phys. Rev. D **90** (6) 062010 (2014)

81. J. Aasi, . . . , M. Heurs, . . . : *Implementation of an F-statistic all-sky search for continuous gravitational waves in Virgo VSR1 data*, Class. Quant. Grav. **31** (16) 165014 (2014)

80. J. Aasi, . . . , M. Heurs, . . . : *Search for Gravitational Waves Associated with gamma-ray Bursts Detected by the Interplanetary Network*, Phys. Rev. Lett. **113** (1) 011102 (2014)

79. J. Aasi, . . . , M. Heurs, . . . : *Methods and results of a search for gravitational waves associated with gamma-ray bursts using the GEO 600, LIGO, and Virgo detectors*, Phys. Rev. D **89** (12) 122003 (2014)

78. J. Aasi, . . . , M. Heurs, . . . : *Search for gravitational radiation from intermediate mass black hole binaries in data from the second LIGO-Virgo joint science run*, Phys. Rev. D **89** (12) (2014)

77. J. Aasi, . . . , M. Heurs, . . . : *The NINJA-2 project: detecting and characterizing gravitational waveforms modelled using numerical binary black hole simulations*, Class. Quant. Grav. **31** (11) 115004 (2014)

76. J. Aasi, . . . , M. Heurs, . . . : *Search for gravitational wave ringdowns from perturbed intermediate mass black holes in LIGO-Virgo data from 2005-2010*, Phys. Rev. D **89** (10) 102006 (2014)

75. F. Acernese, . . . , M. Heurs, . . . : *Concepts and research for future detectors Summary of the Amaldi 10 C4 session*, Gen. Rel. and Grav. **46** (5) 1700 (2014)

74. J. Aasi, . . . , M. Heurs, . . . : *Application of a Hough search for continuous gravitational waves on data from the fifth LIGO science run*, Class. Quant. Grav. **31** (8) 085014 (2014)

73. F. Acernese, . . . , M. Heurs, . . . : *Gravitational Waves from known pulsars: Results from the initial detector era*, Astrophys. J. **785** (2) 119 (2014)

72. J. Aasi, . . . , M. Heurs, . . . : *Constraints on Cosmic Strings from the LIGO-Virgo Gravitational-Wave Detectors*, Phys. Rev. Lett. **112** (13) 7 (2014)

71. J. Aasi, . . . , M. Heurs, . . . : *First searches for optical counterparts to gravitational-wave candidate events*, Astrophys. J. Supplement Series **211** (1) (2014)

70. J. Aasi, . . . , M. Heurs, . . . : *Search for long-lived gravitational-wave transients coincident with long gamma-ray bursts*, Phys. Rev. D **88** (12) 122004 (2013)

69. J. Aasi, . . . , M. Heurs, . . . : *Directed search for continuous gravitational waves from the Galactic center*, Phys. Rev. D **88** (10) 102002 (2013)

68. J. Aasi, . . . , M. Heurs, . . . : *Parameter estimation for compact binary coalescence signals with the first generation gravitational-wave detector network*, Phys. Rev. D **88** (6) 062001 (2013)

67. J. Aasi, . . . , M. Heurs, . . . : *Enhanced sensitivity of the LIGO gravitational wave detector by using squeezed states of light*, Nature Photonics **7** (8) (2013)

66. S. Adrian-Martinez, . . . , M. Heurs, . . . : *A first search for coincident gravitational waves and high energy neutrinos using LIGO, Virgo and ANTARES data from 2007*, Journal of Cosmology and Astroparticle Physics **6** 008 (2013)

65. J. Aasi, . . . , M. Heurs, . . . : *Einstein@Home all-sky search for periodic gravitational waves in LIGO S5 data*, Phys. Rev. D **87** (4) 042001 (2013)

64. J. Aasi, . . . , M. Heurs, . . . : *Search for gravitational waves from binary black hole inspiral, merger, and ringdown in LIGO-Virgo data from 2009-2010*, Phys. Rev. D **87** (2) 022002 (2013)

63. A. G. Kallapur, D. Schütte, I. R. Petersen, T. K. Boyson, E. Huntington, S. Z. Sayed Hassen, H. Song, **M. Heurs**: *Digital Locking of a Three-Mirror Ring Cavity*
in: IEEE International Conference on Control Applications (2012) pp. 794-799

62. P. A. Evans, . . . , M. Heurs, . . . : *SWIFT Follow-Up Observations of Candidate Gravitational-Wave Transient Events*, Astrophysical Journal Supplement Series **203** (2) 28 (2012)

61. J. Aasi, . . . , M. Heurs, . . . : *The characterization of Virgo data and its impact on gravitational-wave searches*, Class. Quant. Grav. **29** (15) 155002 (2012)

60. S. Z. Sayed Hassen, I. R. Petersen, E. Huntington, **M. Heurs**, M. R. James, *LQG control of an optical squeezer*, Proceedings of the American Control Conference (2010) pp. 2730-2735

59. **M. Heurs**, J. G. Webb, A. E. Dunlop, C. C. Harb, T. C. Ralph, E. Huntington: *A high-speed quantum channel for multiplexed quantum communications*, Phys. Rev. A **81** (3) 032325 (2010)

58. **M. Heurs**, J. G. Webb, T. C. Ralph, et al.: *Generation of a Comb of Vacuum Squeezing over 2.4 GHz for Multiplexed Communication*, Conference on Lasers and Electro-Optics (CLEO) and Quantum Electronics and Laser Science Conference (QELS) (2010)

57. **M. Heurs**, I. R. Petersen, M. R. James, E. Huntington: *Homodyne Locking of a Squeezer*
in: Opt. Lett. **34** (16) (2009)

56. S. Z. Sayed Hassen, **M. Heurs**, E. H. Huntington, I. R. Petersen, M. R. James: *Frequency Locking of an Optical Cavity using Linear Quadratic Gaussian Integral Control*
in: J. Phys. B: At. Mol. Opt. Phys. **42** 175501 (2009)

55. B. Abbott, . . . , M. Heurs, . . . : *All-sky search for periodic gravitational waves in LIGO S4 data (vol 77, 022001, 2008)*, Physical Review D **80** (12) (2009)

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54. S. Z. Sayed Hassen, **M. Heurs**, E. H. Huntington, et al.: *Laser Frequency Locking to an Optical Cavity using LQG Control* Quantum Communication, Measurement and Computing (QCMC) Book Series: AIP Conference Proceedings **1110** (295) (2009)

53. B. Abbott, . . . , M. Heurs, . . . : *Search of S3 LIGO data for gravitational wave signals from spinning black hole and neutron star binary inspirals*, Phys. Rev. D **78** (4) 042002 (2008)

52. B. Abbott, . . . , M. Heurs, . . . : *Implications for the origin of GRB 070201 from LIGO observations*, Astrophysical Journal **681** (2) (2008)

51. L. Baggio, . . . , M. Heurs, . . . : *A joint search for gravitational wave bursts with AURIGA and LIGO*, Class. Quant. Grav. **25** (9) 095004 (2008)

50. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves from binary inspirals in S3 and S4 LIGO data*, Phys. Rev. D **77** (6) 062002 (2008)

49. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves associated with 39 gamma-ray bursts using data from the second, third, and fourth LIGO runs*, Phys. Rev. D **77** (6) 062004 (2008)

48. B. Abbott, . . . , M. Heurs, . . . : *All-sky search for periodic gravitational waves in LIGO S4 data*, Phys. Rev. D **77** (2) 022001 (2008)

47. B. Abbott, . . . , M. Heurs, . . . : *Upper limits on gravitational wave emission from 78 radio pulsars (vol 76, art no 042001, 2007)*, Phys. Rev. D **77** (6) 069905 (2008)

46. B. Abbott, . . . , M. Heurs, . . . : *Upper limit map of a background of gravitational waves (vol 76, art no 082003, 2007)*, Phys. Rev. D **77** (6) 069903 (2008)

45. B. Abbott, . . . , M. Heurs, . . . : *First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds (vol 76, art no 022001, 2007)*, Phys. Rev. D **77** (6) 069904 (2008)

44. B. Abbott, . . . , M. Heurs, . . . : *All-sky search for periodic gravitational waves in LIGO S4 data (vol 77, art no 022001, 2008)*, Phys. Rev. D **77** (6) 069902 (2008)

43. E. Huntington, C. C. Harb, **M. Heurs**, T. C. Ralph: *The Quantum Noise Limits to Simultaneous Quadrature Amplitude and Phase Stabilization of Solid-State Lasers*
in: Phys. Rev. A **75** (1) 013802 (2007)

42. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational-wave bursts in LIGO data from the fourth science run*, Class. Quant. Grav. **24** (22) (2007)

41. B. Abbott, . . . , M. Heurs, . . . : *Searches for periodic gravitational waves from unknown isolated sources and Scorpius X-1: Results from the second LIGO science run*, Phys. Rev. D **76** (8) 082001 (2007)

40. B. Abbott, . . . , M. Heurs, . . . : *Upper limit map of a background of gravitational waves*, Phys. Rev. D **76** (8) 082003 (2007)

39. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational wave radiation associated with the pulsating tail of the SGR 1806 20 hyperflare of 27 December 2004 using LIGO*, Phys. Rev. D **76** (6) 062003 (2007)

38. B. Abbott, . . . , M. Heurs, . . . : *Upper limits on gravitational wave emission from 78 radio pulsars*, Phys. Rev. D **76** (4) 042001 (2007)

37. B. Abbott, . . . , M. Heurs, . . . : *First cross-correlation analysis of interferometric and resonant-bar gravitational-wave data for stochastic backgrounds*, Phys. Rev. D **76** (2) 022001 (2007)

36. B. Abbott, . . . , M. Heurs, . . . : *Searching for a stochastic background of gravitational waves with the laser interferometer gravitational-wave observatory*, Astrophysical Journal **659** (2) (2007)

35. E. Huntington, C. C. Harb, **M. Heurs**,. . . : *The Quantum Noise Limits to Simultaneous Intensit and Fequency Stabilization of Solid-State Lasers* Conference on Lasers and Electro-Optics/Quantum Electronics and Laser Science Conference (CLEO/QELS 2007)**1-5** Pages: 2239 (2007)

34. **M. Heurs**, T. Meier, V. M. Quetschke, B. Willke, I. Freitag, K. Danzmann: *Intensity and frequency noise reduction of a Nd:YAG NPRO via pump light stabilisation*, Appl. Phys. B **85** (1) (2006)

33. F. Seifert, P. Kwee, **M. Heurs**, B. Willke, K. Danzmann: *Laser power stabilization for second generation gravitational wave detectors*, Opt. Lett. **31** (13) (2006)

32. B. Willke, K. Danzmann, C. Fallnich, M. Frede, **M. Heurs**, P. King, D. Kracht, P. Kwee, R. Savage, F. Seifert, R. Wilhelm: *Stabilized High Power Laser for Advanced Gravitational Wave Detectors*, J. Phys.: Conf. Series **32** (2006)

31. B. Abbott, . . . , M. Heurs, . . . : *Joint LIGO and TAMA300 search for gravitational waves from inspiralling neutron star binaries*, Phys. Rev. D **73** (10) 102002 (2006)

30. H. Lück, . . . , M. Heurs, . . . : *Status of the GEO600 detector*, Class. Quant. Grav. **23** (8) (2006)

29. B. Willke, . . . , M. Heurs, . . . : *The GEO-HF project*, Class. Quant. Grav. **23** (8) (2006)

28. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves from binary black hole inspirals in LIGO data*, Phys. Rev. D **73** (6) 062001 (2006)

27. B. Abbott, . . . , M. Heurs, . . . : *Upper limits from the LIGO and TAMA detectors on the rate of gravitational-wave bursts*, Phys. Rev. D **72** (12) 122004 (2005)

26. B. Abbott, . . . , M. Heurs, . . . : *First all-sky upper limits from LIGO on the strength of periodic gravitational waves using the Hough transform*, Phys. Rev. D **72** (10) 102004 (2005)

25. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves from galactic and extra-galactic binary neutron stars*, Phys. Rev. D **72** (8) 082001 (2005)

24. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves from primordial black hole binary coalescences in the galactic halo*, Phys. Rev. D **72** (8) 082002 (2005)

23. B. Abbott, . . . , M. Heurs, . . . : *Upper limits on gravitational wave bursts in LIGO's second science run*, Phys. Rev. D **72** (6) 062001 (2005)

22. B. Abbott, . . . , M. Heurs, . . . : *Search for gravitational waves associated with the gamma ray burst GRB030329 using the LIGO detectors*, Phys. Rev. D **72** (4) 042002 (2005)

21. H. Grote, . . . M. Heurs, . . . : *The status of GEO 600*, Class. Quantum Grav. **22** (10) (2005)

20. B. Abbott, ..., M. Heurs, ...: *Limits on gravitational-wave emission from selected pulsars using LIGO data*, Phys. Rev. Lett. **94** 181103 (2005)

19. **M. Heurs**, V. M. Quetschke, B. Willke, K. Danzmann, I. Freitag: *Simultaneously suppressing frequency and intensity noise in a Nd:YAG nonplanar ring oscillator by means of the current-lock technique*, Opt. Lett. **29** (18) (2004)

18. J. R. Smith, ..., M. Heurs, ...: *Commissioning, characterization and operation of the dual-recycled GEO 600*, Class. Quantum Grav. **21** (2004), special issue

17. B. Abbott, ..., M. Heurs, ...: *Analysis of LIGO data for gravitational waves from binary neutron stars*, Phys. Rev. D **69** (12) 122001 (2004)

16. B. Abbott, ..., M. Heurs, ...: *Analysis of first LIGO science data for stochastic gravitational waves*, Phys. Rev. D **69** (12) 122004 (2004)

15. B. Abbott, ..., M. Heurs, ...: *First upper limits from LIGO on gravitational wave bursts*, Phys. Rev. D **69** (10) 102001 (2004)

14. B. Abbott, ..., M. Heurs, ...: *Setting upper limits on the strength of periodic gravitational waves from PSR J1939+2134 using the first science datat from the GEO 600 and LIGO detectors*, Phys. Rev. D **69** (8) 082004 (2004)

13. B. Willke, ... M. Heurs, ...: *Status of GEO 600*, Class. Quantum Grav. **21** (2004)

12. B. Allen, G. Woan, B. Abbott, ..., M. Heurs, ...: *Upper limits on the strength of periodic gravitational waves from PSR J1939+2134*, Class. Quantum Grav. **21** (2004)

11. B. Abbott, ..., M. Heurs, ...: *Detector description and performance for the first coincidence observations between LIGO and GEO*, Nucl. Instr. and Meth. in Phys. Res. A **517** (2004)

10. KA. Strain, ..., M. Heurs, ...: *The status of GEO 600*, Gravitational Wave and Particle Astrophysics Detectors Book Series: Proceedings of the Society of Photo-Optical Instrumentation Engineers **5500** Pages: 25-36 (2004)

9. A.M. Sintes, ..., M. Heurs, ...: *Detector characterization in GEO 600*, Class. Quantum Grav. **20** (2003)

8. M. Hewitson, ..., M. Heurs, ...: *A report on the status of the GEO 600 gravitational wave detector*, Class. Quantum Grav. **20** (2003)

7. G. Woan, ..., M. Heurs, ...: *The GEO 600 Gravitational Wave Detector – Pulsar Prospects*, M. Bailes, D. Nice, S. Thorsett (eds.) Radio Pulsars. ASP Conference Series, Vol CS-302, (2003)

6. S. Gossler, ..., M. Heurs, ...: *The mode-cleaning and injection optics of the gravitational wave detector GEO 600*, Rev. Sci. Inst. **74** (2003)

5. B. Willke, ..., M. Heurs, ...: *Status of the GEO 600 gravitational wave detector*, Gravitational-Wave Detection Book Series: Proceedings of the Society of Photo-Optical Instrumentation Engineers **4856** Pages: 238-246 (2003)

4. I. Zawischa, M. Brendel, K. Danzmann, C. Fallnich, **M. Kirchner**, S. Nagano, V. Quetschke, H. Welling, B. Willke: *The GEO 600 Laser System*, Class. Quantum Grav. **19** (2002)

3. B. Willke, . . . , M. Heurs, . . . : *The GEO 600 gravitational wave detector*, Class. Quantum Grav. **19** (2002)

2. J. Hough, . . . , M. Kirchner, . . . : *GEO 600 – Research, Progress and Prospects*, R. T. Jantzen, V. Gurzadyan, R. Ruffini (eds.) Proceedings of the Ninth Marcel Grossmann Meeting on General Relativity. World Scientific, Singapore (2002)

1. **M. Kirchner**, V. Quetschke, I. Zawischa, B. Willke, K. Danzmann: *Amplitude stabilization of a 13 W master-slave Nd:YAG laser system for the gravitational wave detector GEO 600*, Conference on Lasers and Elektro-Optics Europe (2000)

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