

Bibliographie générale

- [Rie60] Bernhard RIEMANN. “über die Fortpflanzung ebener Luftwellen von endlicher Schwingungsweite”. In : *Abhandlungen der Königlichen Gesellschaft der Wissenschaften in Göttingen* 8 (1860), p. 43-66. URL : <http://eudml.org/doc/135717>.
- [Eis48] L. EISENBUD. “The formal properties of nuclear collisions”. Thèse de doct. Princeton U., 1948.
- [Wig55] Eugene P. WIGNER. “Lower Limit for the Energy Derivative of the Scattering Phase Shift”. In : *Phys. Rev.* 98 (1 avr. 1955), p. 145-147. doi : [10.1103/PhysRev.98.145](https://doi.org/10.1103/PhysRev.98.145). URL : <https://link.aps.org/doi/10.1103/PhysRev.98.145>.
- [Gir60] M. GIRARDEAU. “Relationship between Systems of Impenetrable Bosons and Fermions in One Dimension”. In : *Journal of Mathematical Physics* 1.6 (nov. 1960), p. 516-523. ISSN : 0022-2488. doi : [10.1063/1.1703687](https://doi.org/10.1063/1.1703687). eprint : https://pubs.aip.org/aip/jmp/article-pdf/1/6/516/19055341/516_1_online.pdf. URL : <https://doi.org/10.1063/1.1703687>.
- [Lie63] Elliott H. LIEB. “Exact Analysis of an Interacting Bose Gas. II. The Excitation Spectrum”. In : *Phys. Rev.* 130 (4 mai 1963), p. 1616-1624. doi : [10.1103/PhysRev.130.1616](https://doi.org/10.1103/PhysRev.130.1616). URL : <https://link.aps.org/doi/10.1103/PhysRev.130.1616>.
- [LL63] Elliott H. LIEB et Werner LINIGER. “Exact Analysis of an Interacting Bose Gas. I. The General Solution and the Ground State”. In : *Phys. Rev.* 130 (4 mai 1963), p. 1605-1616. doi : [10.1103/PhysRev.130.1605](https://doi.org/10.1103/PhysRev.130.1605). URL : <https://link.aps.org/doi/10.1103/PhysRev.130.1605>.
- [YY69] C. N. YANG et C. P. YANG. “Thermodynamics of a One-Dimensional System of Bosons with Repulsive Delta-Function Interaction”. In : *Journal of Mathematical Physics* 10.7 (juill. 1969), p. 1115-1122. ISSN : 0022-2488. doi : [10.1063/1.1664947](https://doi.org/10.1063/1.1664947). eprint : https://pubs.aip.org/aip/jmp/article-pdf/10/7/1115/19101094/1115_1_online.pdf. URL : <https://doi.org/10.1063/1.1664947>.
- [Per76] J. PERCUS. “Equilibrium state of a classical fluid of hard rods in an external field”. In : *Journal of Statistical Physics* 15 (1976), p. 505-511.
- [ZZ79] Alexander B ZAMOLODCHIKOV et Alexey B ZAMOLODCHIKOV. “Factorized S-matrices in two dimensions as the exact solutions of certain relativistic quantum field theory models”. In : *Annals of Physics* 120.2 (1979), p. 253-291. ISSN : 0003-4916. doi : [https://doi.org/10.1016/0003-4916\(79\)90391-9](https://doi.org/10.1016/0003-4916(79)90391-9). URL : <https://www.sciencedirect.com/science/article/pii/0003491679903919>.
- [IT80] Masakatsu ISHIKAWA et Hajime TAKAYAMA. “Solitons in a One-Dimensional Bose System with the Repulsive Delta-Function Interaction”. In : *Journal of the Physical Society of Japan* 49 (1980), p. 1242-1246. URL : <https://api.semanticscholar.org/CorpusID:122386591>.
- [Fey82] Richard P. FEYNMAN. “Simulating physics with computers”. In : *International Journal of Theoretical Physics* 21.6-7 (juin 1982), p. 467-488. doi : [10.1007/BF02650179](https://doi.org/10.1007/BF02650179).
- [BDS83] C. BOLDRIGHINI, R. L. DOBRUSHIN et Y. M. SUKHOV. “One-dimensional hard rod caricature of hydrodynamics”. In : *Journal of Statistical Physics* 31 (1983), p. 577-616.
- [CDG88] Claude COHEN-TANNOUDJI, Jacques DUPONT-ROC et Gilbert GRYNBERG. *Processus d’interaction entre photons et atomes*. Savoirs actuels. InterEditions / Éditions du CNRS, 1988.
- [KIB93] V. KOREPIN, A. IZERGIN et N. BOGOLIUBOV. “Quantum Inverse Scattering Method and Correlation Functions”. In : *Journal of Soviet Mathematics* 31 (fév. 1993). doi : [10.1007/BF02107233](https://doi.org/10.1007/BF02107233).

- [KSS96] Yu. KAGAN, E. L. SURKOV et G. V. SHLYAPNIKOV. “Evolution of a Bose-condensed gas under variations of the confining potential”. In : *Phys. Rev. A* 54 (3 sept. 1996), R1753-R1756. doi : [10.1103/PhysRevA.54.R1753](https://doi.org/10.1103/PhysRevA.54.R1753). url : <https://link.aps.org/doi/10.1103/PhysRevA.54.R1753>.
- [For+98] J. FORTAGH et al. “Miniaturized Wire Trap for Neutral Atoms”. In : *Phys. Rev. Lett.* 81 (24 déc. 1998), p. 5310-5313. doi : [10.1103/PhysRevLett.81.5310](https://doi.org/10.1103/PhysRevLett.81.5310). url : <https://link.aps.org/doi/10.1103/PhysRevLett.81.5310>.
- [Str98] S. STRINGARI. “Dynamics of Bose-Einstein condensed gases in highly deformed traps”. In : *Phys. Rev. A* 58 (3 sept. 1998), p. 2385-2388. doi : [10.1103/PhysRevA.58.2385](https://doi.org/10.1103/PhysRevA.58.2385). url : <https://link.aps.org/doi/10.1103/PhysRevA.58.2385>.
- [DCS99] Johannes DENSCHLAG, Donatella CASSETTARI et Jörg SCHMIEDMAYER. “Guiding Neutral Atoms with a Wire”. In : *Phys. Rev. Lett.* 82 (10 mars 1999), p. 2014-2017. doi : [10.1103/PhysRevLett.82.2014](https://doi.org/10.1103/PhysRevLett.82.2014). url : <https://link.aps.org/doi/10.1103/PhysRevLett.82.2014>.
- [GWO99] Rudolf GRIMM, Matthias WEIDEMÜLLER et Yurii B. OVCHINNIKOV. *Optical dipole traps for neutral atoms*. 1999. arXiv : [physics/9902072 \[physics.atom-ph\]](https://arxiv.org/abs/physics/9902072). url : <https://arxiv.org/abs/physics/9902072>.
- [RHH99] J. REICHEL, W. HÄNSEL et T. W. HÄNSCH. “Atomic Micromanipulation with Magnetic Surface Traps”. In : *Phys. Rev. Lett.* 83 (17 oct. 1999), p. 3398-3401. doi : [10.1103/PhysRevLett.83.3398](https://doi.org/10.1103/PhysRevLett.83.3398). url : <https://link.aps.org/doi/10.1103/PhysRevLett.83.3398>.
- [Fol+00] Ron FOLMAN et al. “Controlling Cold Atoms using Nanofabricated Surfaces : Atom Chips”. In : *Phys. Rev. Lett.* 84 (20 mai 2000), p. 4749-4752. doi : [10.1103/PhysRevLett.84.4749](https://doi.org/10.1103/PhysRevLett.84.4749). url : <https://link.aps.org/doi/10.1103/PhysRevLett.84.4749>.
- [Hän+01] Wolfgang HÄNSEL et al. “Bose-Einstein Condensation on a Microelectronic Chip”. In : *Nature* 413 (nov. 2001), p. 498-501. doi : [10.1038/35097032](https://doi.org/10.1038/35097032).
- [Ott+01] H. OTT et al. “Bose-Einstein Condensation in a Surface Microtrap”. In : *Phys. Rev. Lett.* 87 (23 nov. 2001), p. 230401. doi : [10.1103/PhysRevLett.87.230401](https://doi.org/10.1103/PhysRevLett.87.230401). url : <https://link.aps.org/doi/10.1103/PhysRevLett.87.230401>.
- [Sch01] Nicolas SCHLOSSER. “Étude et réalisation de micro-pièges dipolaires optiques pour atomes neutres”. Thèse de doctorat. Université Paris XI, 2001. url : http://tel.ccsd.cnrs.fr/documents/archives0/00/00/11/95/index_fr.html.
- [Kra+02] S KRAFT et al. “Anomalous longitudinal magnetic field near the surface of copper conductors”. In : *Journal of Physics B : Atomic, Molecular and Optical Physics* 35.21 (oct. 2002), p. L469. doi : [10.1088/0953-4075/35/21/102](https://doi.org/10.1088/0953-4075/35/21/102). url : <https://dx.doi.org/10.1088/0953-4075/35/21/102>.
- [Ste02] D. A. STECK. *Rubidium 87 D Line Data*. <http://george.ph.utexas.edu/~dsteck/alkalidata/rubidium87numbers.pdf>. Revision 1.6. 2002.
- [Aus03] Christine AUSSIBAL. “Réalisation d’un condensat de Bose-Einstein sur une microstructure”. Thèse de doct. Université Paris Sud - Paris XI, nov. 2003. url : <https://pastel.hal.science/tel-00004429>.
- [BBT03] Olivier BABELON, Denis BERNARD et Michel TALON. *Introduction to Classical Integrable Systems*. Cambridge Monographs on Mathematical Physics. Online publication date : August 2009. Cambridge, UK : Cambridge University Press, 2003. ISBN : 9780511535024. doi : <https://doi.org/10.1017/CBO9780511535024>.
- [FLC03] J. N. FUCHS, X. LEYRONAS et R. COMBESCOT. “Hydrodynamic modes of a one-dimensional trapped Bose gas”. In : *Phys. Rev. A* 68 (4 oct. 2003), p. 043610. doi : [10.1103/PhysRevA.68.043610](https://doi.org/10.1103/PhysRevA.68.043610). url : <https://link.aps.org/doi/10.1103/PhysRevA.68.043610>.
- [Mor+03] Henning MORITZ et al. “Exciting Collective Oscillations in a Trapped 1D Gas”. In : *Phys. Rev. Lett.* 91 (25 déc. 2003), p. 250402. doi : [10.1103/PhysRevLett.91.250402](https://doi.org/10.1103/PhysRevLett.91.250402). url : <https://link.aps.org/doi/10.1103/PhysRevLett.91.250402>.

- [Est+04] J. ESTÈVE et al. “Role of wire imperfections in micromagnetic traps for atoms”. In : *Phys. Rev. A* 70 (4 oct. 2004), p. 043629. doi : [10.1103/PhysRevA.70.043629](https://doi.org/10.1103/PhysRevA.70.043629). URL : <https://link.aps.org/doi/10.1103/PhysRevA.70.043629>.
- [KWW04] Toshiya KINOSHITA, Trevor WENGER et David S. WEISS. “Observation of a one-dimensional Tonks-Girardeau gas”. In : *Science* 305.5687 (2004), p. 1125-1128. doi : [10.1126/science.1100700](https://doi.org/10.1126/science.1100700). URL : <https://www.science.org/doi/abs/10.1126/science.1100700>.
- [Par+04] Belén PAREDES et al. “Tonks-Girardeau gas of ultracold atoms in an optical lattice”. In : *Nature* 429.6989 (2004), p. 277-281. doi : [10.1038/nature02530](https://doi.org/10.1038/nature02530). URL : <https://hal.science/hal-00002239>.
- [Tol+04] B. Laburthe TOLRA et al. “Observation of Reduced Three-Body Recombination in a Correlated 1D Degenerate Bose Gas”. In : *Phys. Rev. Lett.* 92 (19 mai 2004), p. 190401. doi : [10.1103/PhysRevLett.92.190401](https://doi.org/10.1103/PhysRevLett.92.190401). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.92.190401>.
- [BI05] Immanuel BLOCH et IMMANUEL. “Ultracold quantum gases in optical lattices”. In : *Nature Physics* 1 (oct. 2005), p. 23-30. doi : [10.1038/nphys138](https://doi.org/10.1038/nphys138).
- [Mor+05] Henning MORITZ et al. “Confinement induced molecules in a 1D Fermi gas”. In : *Phys. Rev. Lett.* 94 (juin 2005), p. 210401. doi : [10.1103/PhysRevLett.94.210401](https://doi.org/10.1103/PhysRevLett.94.210401). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.94.210401>.
- [Sch+05] T. SCHUMM et al. “Matter-wave interferometry in a double well on an atom chip”. In : *Nature Phys.* 1.1 (2005), p. 57-62. doi : [10.1038/nphys125](https://doi.org/10.1038/nphys125).
- [BS06] D. M. BRINK et C. V. SUKUMAR. “Majorana spin-flip transitions in a magnetic trap”. In : *Phys. Rev. A* 74 (3 sept. 2006), p. 035401. doi : [10.1103/PhysRevA.74.035401](https://doi.org/10.1103/PhysRevA.74.035401). URL : <https://link.aps.org/doi/10.1103/PhysRevA.74.035401>.
- [Dar06] Benoît DARQUIÉ. “Manipulation d’atomes dans des pièges dipolaires microscopiques et émission contrôlée de photons par un atome unique”. Submitted on 14 Feb 2006. Thèse de doctorat. Physique Atomique [physics.atom-ph], 2006. URL : <https://pastel.hal.science/tel-00011604v1>.
- [GLM06] Vittorio GIOVANNETTI, Seth LLOYD et Lorenzo MACCONE. “Quantum Metrology”. In : *Phys. Rev. Lett.* 96 (1 jan. 2006), p. 010401. doi : [10.1103/PhysRevLett.96.010401](https://doi.org/10.1103/PhysRevLett.96.010401). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.96.010401>.
- [KWW06] Toshiya KINOSHITA, Trevor WENGER et David Weiss. “A quantum Newton’s cradle”. In : *Nature* 440 (mai 2006), p. 900-3. doi : [10.1038/nature04693](https://doi.org/10.1038/nature04693).
- [Tre+06] J.-B. TREBBIA et al. “Experimental Evidence for the Breakdown of a Hartree-Fock Approach in a Weakly Interacting Bose Gas”. In : *Phys. Rev. Lett.* 97 (25 déc. 2006), p. 250403. doi : [10.1103/PhysRevLett.97.250403](https://doi.org/10.1103/PhysRevLett.97.250403). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.97.250403>.
- [Rig+07] Marcos RIGOL et al. “Relaxation in a completely integrable many-body quantum system : an ab initio study of the dynamics of the highly excited states of 1D lattice hard-core bosons”. In : *Physical review letters* 98.5 (2007), p. 050405.
- [Tre+07] J.-B. TREBBIA et al. “Roughness Suppression via Rapid Current Modulation on an Atom Chip”. In : *Phys. Rev. Lett.* 98 (26 juin 2007), p. 263201. doi : [10.1103/PhysRevLett.98.263201](https://doi.org/10.1103/PhysRevLett.98.263201). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.98.263201>.
- [Ame+08] A. H. van AMERONGEN et al. “Yang-Yang thermodynamics on an atom chip”. In : *Phys. Rev. Lett.* 100 (mars 2008), p. 090402. doi : [10.1103/PhysRevLett.100.090402](https://doi.org/10.1103/PhysRevLett.100.090402). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.100.090402>.
- [BDZ08] Immanuel BLOCH, Jean DALIBARD et Wilhelm ZWERGER. “Many-body physics with ultracold gases”. In : *Rev. Mod. Phys.* 80 (3 juill. 2008), p. 885-964. doi : [10.1103/RevModPhys.80.885](https://doi.org/10.1103/RevModPhys.80.885). URL : <https://link.aps.org/doi/10.1103/RevModPhys.80.885>.
- [Cou09] Jean-François COULOMBEL. “Equations hyperboliques non-linéaires”. DEA. Lecture. Université de Lille 1, France, sept. 2009. URL : <https://cel.hal.science/cel-00616496>.

- [Hal+09] Elmar HALLER et al. “Realization of an excited, strongly correlated quantum gas phase”. In : *Science* 325.5945 (sept. 2009), p. 1224-1227. issn : 1095-9203. doi : [10.1126/science.1175850](https://doi.org/10.1126/science.1175850). url : <http://dx.doi.org/10.1126/science.1175850>.
- [Lia+10] Yean-an LIAO et al. “Spin-imbalance in a one-dimensional Fermi gas”. In : *Nature* 467.7315 (sept. 2010), p. 567-569. issn : 1476-4687. doi : [10.1038/nature09393](https://doi.org/10.1038/nature09393). url : <http://dx.doi.org/10.1038/nature09393>.
- [NC10] Michael A. NIELSEN et Isaac L. CHUANG. *Quantum Computation and Quantum Information : 10th Anniversary Edition*. Cambridge : Cambridge University Press, 2010. isbn : 9781107002173.
- [BDW11] Isabelle BOUCHOULE, N.J. van DRUTEN et C.I. WESTBROOK. “Atom Chips and One-Dimensional Bose Gases”. In : *Atom Chips*. John Wiley et Sons, Ltd, 2011. Chap. 11, p. 331-363. isbn : 9783527633357. doi : [10.1002/9783527633357.ch11](https://doi.org/10.1002/9783527633357.ch11). url : <https://onlinelibrary.wiley.com/doi/abs/10.1002/9783527633357.ch11>.
- [CCR11] Amy C. CASSIDY, Charles W. CLARK et Marcos RIGOL. “Generalized Thermalization in an Integrable Lattice System”. In : *Phys. Rev. Lett.* 106 (14 avr. 2011), p. 140405. doi : [10.1103/PhysRevLett.106.140405](https://doi.org/10.1103/PhysRevLett.106.140405). url : <https://link.aps.org/doi/10.1103/PhysRevLett.106.140405>.
- [CM11] Jean-Sébastien CAUX et Jorn MOSSEL. “Remarks on the notion of quantum integrability”. In : *Journal of Statistical Mechanics : Theory and Experiment* 2011.02 (fév. 2011), P02023. doi : [10.1088/1742-5468/2011/02/P02023](https://doi.org/10.1088/1742-5468/2011/02/P02023). url : <https://dx.doi.org/10.1088/1742-5468/2011/02/P02023>.
- [Jac+11] Thibaut JACQMIN et al. “Sub-Poissonian fluctuations in a 1D Bose gas : From the quantum quasi-condensate to the strongly interacting regime”. In : *Phys. Rev. Lett.* 106 (juin 2011), p. 230405. doi : [10.1103/PhysRevLett.106.230405](https://doi.org/10.1103/PhysRevLett.106.230405). url : <https://link.aps.org/doi/10.1103/PhysRevLett.106.230405>.
- [CK12] Jean-Sébastien CAUX et Robert M. KONIK. “Constructing the Generalized Gibbs Ensemble after a Quantum Quench”. In : *Phys. Rev. Lett.* 109 (17 oct. 2012), p. 175301. doi : [10.1103/PhysRevLett.109.175301](https://doi.org/10.1103/PhysRevLett.109.175301). url : <https://link.aps.org/doi/10.1103/PhysRevLett.109.175301>.
- [GC12] Michel GAUDIN et J.S. CAUX. “The Bethe Wavefunction”. In : *The Bethe Wavefunction* (jan. 2012), p. 1-322. doi : [10.1017/CBO9781107053885](https://doi.org/10.1017/CBO9781107053885).
- [Jac12] Thibaut JACQMIN. “Mesures de corrélations dans un gaz de bosons unidimensionnel sur puce”. 2012PA112261. Thèse de doct. 2012. url : <http://www.theses.fr/2012PA112261/document>.
- [Bre13] Alberto BRESSAN. “Hyperbolic Conservation Laws An Illustrated Tutorial”. In : *Lecture Notes in Mathematics* 2062 (jan. 2013). doi : [10.1007/978-3-642-32160-3-2](https://doi.org/10.1007/978-3-642-32160-3-2).
- [GBL13] Xi-Wen GUAN, Murray T. BATCHELOR et Chaohong LEE. “Fermi gases in one dimension : From Bethe ansatz to experiments”. In : *Rev. Mod. Phys.* 85 (nov. 2013), p. 1633-1691. doi : [10.1103/RevModPhys.85.1633](https://doi.org/10.1103/RevModPhys.85.1633). url : <https://link.aps.org/doi/10.1103/RevModPhys.85.1633>.
- [LSR13] Fam LE KIEN, Philipp SCHNEEWEISS et Arno RAUSCHENBEUTEL. “Dynamical polarizability of atoms in arbitrary light fields : general theory and application to cesium”. In : *The European Physical Journal D* 67.5 (mai 2013). issn : 1434-6079. doi : [10.1140/epjd/e2013-30729-x](https://doi.org/10.1140/epjd/e2013-30729-x). url : <http://dx.doi.org/10.1140/epjd/e2013-30729-x>.
- [BEL14] L. BONNES, F. H. L. ESSLER et A. M. LÄUCHLI. “Light-cone dynamics after quantum quenches in spin chains”. In : *Physical Review B* 90.1 (2014), p. 014309. doi : [10.1103/PhysRevB.90.014309](https://doi.org/10.1103/PhysRevB.90.014309). url : <https://link.aps.org/doi/10.1103/PhysRevB.90.014309>.
- [Fan14] Yiyuan Bess FANG. “Equilibrium and Nonequilibrium Behaviours of 1D Bose Gases”. 2014IOTA0005. Thèse de doct. 2014. url : <http://www.theses.fr/2014IOTA0005/document>.
- [GA14] Garry GOLDSTEIN et Natan ANDREI. *Equilibration and Generalized GGE in the Lieb Liniger gas*. 2014. arXiv : [1309.3471 \[cond-mat.quant-gas\]](https://arxiv.org/abs/1309.3471). url : <https://arxiv.org/abs/1309.3471>.

- [Pag+14] Guido PAGANO et al. “A one-dimensional liquid of fermions with tunable spin”. In : *Nature Physics* 10.3 (fév. 2014), p. 198-201. ISSN : 1745-2481. doi : [10.1038/nphys2878](https://doi.org/10.1038/nphys2878). URL : <http://dx.doi.org/10.1038/nphys2878>.
- [Kar+15] Tomasz KARPIUK et al. “Correspondence between dark solitons and the type II excitations of the Lieb-Liniger model”. In : *Phys. Rev. A* 91 (1 jan. 2015), p. 013621. doi : [10.1103/PhysRevA.91.013621](https://doi.org/10.1103/PhysRevA.91.013621). URL : <https://link.aps.org/doi/10.1103/PhysRevA.91.013621>.
- [Wou15] B. M. WOUTERS. “The quench action approach to out-of-equilibrium quantum integrable models”. PhD thesis. Institute for Theoretical Physics Amsterdam (ITFA), oct. 2015. URL : <https://hdl.handle.net/11245/1.486244>.
- [Ber+16] B. BERTINI et al. “Transport in out-of-equilibrium XXZ chains : Exact profiles of charges and currents”. In : *Physical Review Letters* 117.20 (2016), p. 207201. doi : [10.1103/PhysRevLett.117.207201](https://doi.org/10.1103/PhysRevLett.117.207201).
- [CDY16] O. A. CASTRO-ALVAREDO, B. DOYON et T. YOSHIMURA. “Emergent hydrodynamics in integrable quantum systems out of equilibrium”. In : *Physical Review X* 6.4 (2016), p. 041065. doi : [10.1103/PhysRevX.6.041065](https://doi.org/10.1103/PhysRevX.6.041065).
- [Fra16] Fabio FRANCHINI. *An Introduction to Integrable Techniques for One-Dimensional Quantum Systems*. T. 940. Sept. 2016. ISBN : 9783319484860. doi : [10.1007/978-3-319-48487-7](https://doi.org/10.1007/978-3-319-48487-7).
- [Joh16] Aisling JOHNSON. “One-dimensional Bose Gases on an Atom Chip : Correlations in Momentum Space and Theoretical Investigation of Loss-induced Cooling.” 2016SACL0013. Thèse de doct. 2016. URL : <http://www.theses.fr/2016SACL0013/document>.
- [NP16] Jacopo De NARDIS et Miłosz PANFIL. “Exact correlations in the Lieb-Liniger model and detailed balance out-of-equilibrium”. In : *SciPost Phys.* 1 (2016), p. 015. doi : [10.21468/SciPostPhys.1.2.015](https://doi.org/10.21468/SciPostPhys.1.2.015). URL : <https://scipost.org/10.21468/SciPostPhys.1.2.015>.
- [DS17] Benjamin DOYON et Herbert SPOHN. “Drude Weight for the Lieb-Liniger Bose Gas”. In : *SciPost Physics* 3.6 (déc. 2017). ISSN : 2542-4653. doi : [10.21468/scipostphys.3.6.039](https://doi.org/10.21468/scipostphys.3.6.039). URL : <http://dx.doi.org/10.21468/SciPostPhys.3.6.039>.
- [DY17] Benjamin DOYON et Takato YOSHIMURA. “A note on generalized hydrodynamics : inhomogeneous fields and other concepts”. In : *SciPost Phys.* 2 (2017), p. 014. doi : [10.21468/SciPostPhys.2.2.014](https://doi.org/10.21468/SciPostPhys.2.2.014). URL : <https://scipost.org/10.21468/SciPostPhys.2.2.014>.
- [Doy+17] Benjamin DOYON et al. “Large-Scale Description of Interacting One-Dimensional Bose Gases : Generalized Hydrodynamics Supersedes Conventional Hydrodynamics”. In : *Phys. Rev. Lett.* 119 (19 nov. 2017), p. 195301. doi : [10.1103/PhysRevLett.119.195301](https://doi.org/10.1103/PhysRevLett.119.195301). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.119.195301>.
- [Nar+17a] Jacopo De NARDIS et al. “Probing non-thermal density fluctuations in the one-dimensional Bose gas”. In : *SciPost Phys.* 3 (2017), p. 023. doi : [10.21468/SciPostPhys.3.3.023](https://doi.org/10.21468/SciPostPhys.3.3.023). URL : <https://scipost.org/10.21468/SciPostPhys.3.3.023>.
- [Nar+17b] Jacopo De NARDIS et al. “Probing non-thermal density fluctuations in the one-dimensional Bose gas”. In : *SciPost Phys.* 3 (2017), p. 023. doi : [10.21468/SciPostPhys.3.3.023](https://doi.org/10.21468/SciPostPhys.3.3.023). URL : <https://scipost.org/10.21468/SciPostPhys.3.3.023>.
- [DBD18] Jacopo De NARDIS, Denis BERNARD et Benjamin DOYON. “Hydrodynamic Diffusion in Integrable Systems”. In : *Phys. Rev. Lett.* 121 (16 oct. 2018), p. 160603. doi : [10.1103/PhysRevLett.121.160603](https://doi.org/10.1103/PhysRevLett.121.160603). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.121.160603>.
- [PK18] T. PALMAI et R. M. KONIK. “Quasilocal charges and the generalized Gibbs ensemble in the Lieb-Liniger model”. In : *Phys. Rev. E* 98 (5 nov. 2018), p. 052126. doi : [10.1103/PhysRevE.98.052126](https://doi.org/10.1103/PhysRevE.98.052126). URL : <https://link.aps.org/doi/10.1103/PhysRevE.98.052126>.
- [BAC19] Alvise BASTIANELLO, Vincenzo ALBA et Jean-Sébastien CAUX. “Generalized Hydrodynamics with Space-Time Inhomogeneous Interactions”. In : *Phys. Rev. Lett.* 123 (sept. 2019), p. 130602. doi : [10.1103/PhysRevLett.123.130602](https://doi.org/10.1103/PhysRevLett.123.130602). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.123.130602>.

- [BD19] Alvise BASTIANELLO et Andrea DE LUCA. “Integrability-Preserved Adiabatic Reversibility in Quantum Spin Chains”. In : *Phys. Rev. Lett.* 122 (juin 2019), p. 240606. doi : [10.1103/PhysRevLett.122.240606](https://doi.org/10.1103/PhysRevLett.122.240606). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.122.240606>.
- [Cau+19] Jean-Sébastien CAUX et al. “Hydrodynamics of the interacting Bose gas in the Quantum Newton Cradle setup”. In : *SciPost Phys.* 6 (2019), p. 070. doi : [10.21468/SciPostPhys.6.6.070](https://doi.org/10.21468/SciPostPhys.6.6.070). URL : <https://scipost.org/10.21468/SciPostPhys.6.6.070>.
- [NBD19] Jacopo De NARDIS, Denis BERNARD et Benjamin DOYON. “Diffusion in generalized hydrodynamics and quasiparticle scattering”. In : *SciPost Phys.* 6 (2019), p. 049. doi : [10.21468/SciPostPhys.6.4.049](https://doi.org/10.21468/SciPostPhys.6.4.049). URL : <https://scipost.org/10.21468/SciPostPhys.6.4.049>.
- [Sch+19] M. SCHEMMER et al. “Generalized Hydrodynamics on an Atom Chip”. In : *Phys. Rev. Lett.* 122 (9 mars 2019), p. 090601. doi : [10.1103/PhysRevLett.122.090601](https://doi.org/10.1103/PhysRevLett.122.090601). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.122.090601>.
- [Sch19] Maximilian SCHEMMER. “Out-of-equilibrium dynamics in 1D Bose gases”. 2019SACLO002. Thèse de doct. 2019. URL : <http://www.theses.fr/2019SACLO002/document>.
- [BDD20] Isabelle BOUCHOULE, Benjamin DOYON et Jerome DUBAIL. “The effect of atom losses on the distribution of rapidities in the one-dimensional Bose gas”. In : *SciPost Phys.* 9 (2020), p. 044. doi : [10.21468/SciPostPhys.9.4.044](https://doi.org/10.21468/SciPostPhys.9.4.044). URL : <https://scipost.org/10.21468/SciPostPhys.9.4.044>.
- [Doy20a] Benjamin DOYON. “Lecture notes on Generalised Hydrodynamics”. In : *SciPost Phys. Lect. Notes* (2020), p. 18. doi : [10.21468/SciPostPhysLectNotes.18](https://doi.org/10.21468/SciPostPhysLectNotes.18). URL : <https://scipost.org/10.21468/SciPostPhysLectNotes.18>.
- [Doy20b] Benjamin DOYON. “Lecture notes on Generalised Hydrodynamics”. In : *SciPost Physics Lecture Notes* 18 (2020), p. 1-138. doi : [10.21468/SciPostPhysLectNotes.18](https://doi.org/10.21468/SciPostPhysLectNotes.18). URL : <https://scipost.org/SciPostPhysLectNotes.18>.
- [BCD22] Thibault BONNEMAIN, Vincent CAUDRELIER et Benjamin DOYON. “Hamiltonian formulation and aspects of integrability of generalised hydrodynamics”. In : *Communications in Mathematical Physics* 391.3 (2022), p. 1485-1540. doi : [10.1007/s00220-021-04228-z](https://doi.org/10.1007/s00220-021-04228-z). URL : <https://arxiv.org/pdf/2406.04924.pdf>.
- [BD22] Isabelle BOUCHOULE et Jérôme DUBAIL. “Generalized hydrodynamics in the one-dimensional Bose gas : theory and experiments”. In : *Journal of Statistical Mechanics : Theory and Experiment* 2022.1 (jan. 2022), p. 014003. doi : [10.1088/1742-5468/ac3659](https://doi.org/10.1088/1742-5468/ac3659). URL : <https://dx.doi.org/10.1088/1742-5468/ac3659>.
- [BDB23] Yasser BEZZAZ, Léa DUBOIS et Isabelle BOUCHOULE. *Rapidity distribution within the defocusing non-linear Schrödinger equation model*. 2023. arXiv : [2301.11098 \[cond-mat.quant-gas\]](https://arxiv.org/abs/2301.11098). URL : <https://arxiv.org/abs/2301.11098>.
- [Ess23] Fabian H.L. ESSLER. “A short introduction to Generalized Hydrodynamics”. In : *Physica A : Statistical Mechanics and its Applications* 631 (2023). Lecture Notes of the 15th International Summer School of Fundamental Problems in Statistical Physics, p. 127572. ISSN : 0378-4371. doi : <https://doi.org/10.1016/j.physa.2022.127572>. URL : <https://www.sciencedirect.com/science/article/pii/S0378437122003971>.
- [KK23] Matthew L KERR et Karen V KHERUNTSYAN. “The theory of generalised hydrodynamics for the one-dimensional Bose gas”. In : *AAPPS Bulletin* 33.1 (2023), p. 25.
- [Dub+24] L. DUBOIS et al. “Probing the Local Rapidity Distribution of a One-Dimensional Bose Gas”. In : *Phys. Rev. Lett.* 133 (11 sept. 2024), p. 113402. doi : [10.1103/PhysRevLett.133.113402](https://doi.org/10.1103/PhysRevLett.133.113402). URL : <https://link.aps.org/doi/10.1103/PhysRevLett.133.113402>.
- [Dub24] Léa DUBOIS. “Dynamique hors d’équilibre d’un gaz de Bosons unidimensionnel étudiée via la mesure spatialement résolue de la distribution des quasiparticules”. 2024UPASP066. Thèse de doct. 2024. URL : <http://www.theses.fr/2024UPASP066/document>.
- [Hüb+24] Friedrich HÜBNER et al. *Diffusive hydrodynamics from long-range correlations*. 2024. arXiv : [2408.04502 \[cond-mat.stat-mech\]](https://arxiv.org/abs/2408.04502). URL : <https://arxiv.org/abs/2408.04502>.

- [Dub+25] L. DUBOIS et al. “Experimental Investigation of a Bipartite Quench in a 1D Bose gas”. Laboratoire Charles Fabry, Institut d’Optique, CNRS, Université Paris-Saclay; CESQ and ISIS (UMR 7006), University of Strasbourg and CNRS. Mai 2025. url : <https://arxiv.org/pdf/2505.05839.pdf>.

