

## Francesca Ferlino – List of Publications

### *Scientific Publications in Peer-Reviewed Journals (chronological)*

1. *Extended Bose-Hubbard Models with Ultracold Magnetic Atoms*, S. Baier, M. J. Mark, D. Petter, K. Aikawa, L. Chomaz, Z. Cai, M. Baranov, P. Zoller, **F. Ferlino**, arXiv:1507.03500 (2015).
2. *Emergence of chaotic scattering in ultracold Er and Dy*, T. A. Maier, H. Kadau, M. Schmitt, M. Wenzel, I. Ferrier-Barbut, T. Pfau, A. Frisch, S. Baier, K. Aikawa, L. Chomaz, M. J. Mark, **F. Ferlino**, C. Makrides, E. Tiesinga, A. Petrov, S. Kotochigova, arXiv: 1506.05221 (2015).
3. *Ultracold polar molecules composed of strongly magnetic atoms*, Frisch, M. Mark, K. Aikawa, S. Baier, R. Grimm, A. Petrov, S. Kotochigova, G. Quemener, M. Lepers, O. Dulieu, **F. Ferlino**, arXiv:1504.04578 (2015).
4. *Anisotropic Relaxation Dynamics in a Dipolar Fermi Gas Driven Out of Equilibrium*, K. Aikawa, A. Frisch, M. Mark, S. Baier, R. Grimm, J. L. Bohn, D. S. Jin, G. Bruun, **F. Ferlino**, , Phys. Rev. Lett. 113, 263201 (2014).
5. *Resonant atom-dimer collisions in cesium: Testing universality at positive scattering lengths*, A. Zenesini, B. Huang, M. Berninger, H.-C. Nägerl, **F. Ferlino**, and R. Grimm, Phys. Rev. A 90, 022704 (2014).
6. *Ultracold dense samples of dipolar RbCs molecules in the rovibrational and hyperfine ground state*, T. Takekoshi, L. Reichsöllner, A. Schindewolf, J. M. Hutson, C. R. Le Sueur, O. Dulieu, **F. Ferlino**, R. Grimm, and H.-C. Nägerl, Phys. Rev. Lett 113, 205301 (2014).
7. *Molecular physics: Complexity trapped by simplicity*, **F. Ferlino**, Nature 512, 261-262 (2014).
8. *Observation of Fermi surface deformation in a dipolar gas*, K. Aikawa, S. Baier, A. Frisch, M. Mark, C. Ravensbergen, and **F. Ferlino**, Science 345, 1484 (2014).
9. *Quantum Chaos in Ultracold Collisions of Erbium*, A. Frisch, M. Mark, K. Aikawa, **F. Ferlino**, J. L. Bohn, C. Makrides, A. Petrov, and S. Kotochigova, Nature 507, 475-479 (2014).
10. *Reaching Fermi degeneracy via universal dipolar scattering*, K. Aikawa, A. Frisch, M. Mark, S. Baier, R. Grimm, and **F. Ferlino**, Phys. Rev. Lett. 112, 010404 (2014); Selected as Editors' Suggestion, and featured in Physics Viewpoint.
11. *Hyperfine structure of laser cooling transitions in fermionic Erbium-167*, A. Frisch, K. Aikawa, M. Mark, **F. Ferlino**, E. Berseneva, and S. Kotochigova, Phys. Rev. A 88, 032508 (2013).
12. *Resonant Five-Body Recombination in an Ultracold Gas*, A. Zenesini, B. Huang, M. Berninger, S. Besler, H.-C. Nägerl, **F. Ferlino**, R. Grimm, C. H. Greene, and J. von Stecher, New J. Phys. 15 043040 (2013).
13. *Feshbach resonances, weakly bound molecular states, and coupled-channel potentials for cesium at high magnetic fields*, M. Berninger, A. Zenesini, B. Huang, W. Harm, H.-C. Nägerl, **F. Ferlino**, R. Grimm, P. S. Julienne, and J. M. Hutson Phys. Rev. A 87, 032517 (2013).
14. *Bose-Einstein Condensation of Erbium*, K. Aikawa, A. Frisch, M. Mark, S. Baier, A. Rietzler, R. Grimm, and **F. Ferlino**, Phys. Rev. Lett. 108, 210401 (2012); Selected as Editors' Suggestion, and featured in Physics Viewpoint.
15. *Narrow-line magneto-optical trap for erbium: Simple approach for a complex atom*, A. Frisch, K. Aikawa, M. Mark, A. Rietzler, J. Schindler, E. Zupanic, R. Grimm, and **F. Ferlino**, Phys. Rev. A 85, 051401(R) (2012).
16. *Towards the production of ultracold ground-state RbCs molecules: Feshbach resonances, weakly bound states, and coupled-channel model*, T. Takekoshi, M. Debatin, R. Rameshan, **F. Ferlino**, R. Grimm, H.-C. Nägerl, C.R. Le Sueur, J.M. Hutson, P.S. Julienne, S. Kotochigova, and E. Tiemann, Phys. Rev. A 85, 032506 (2012).
17. *Universality of the Three-Body Parameter for Efimov States in Ultracold Cesium*, M. Berninger, A. Zenesini, B. Huang, W. Harm, H.-C. Nägerl, **F. Ferlino**, R. Grimm, P. S. Julienne, and J. M. Hutson, Phys. Rev. Lett. 107, 120401 (2011).
18. *Efimov Resonances in Ultracold Quantum Gases*, **F. Ferlino**, A. Zenesini, M. Berninger, B. Huang, H.-C. Nägerl, and R. Grimm, Few-Body Syst. 51, 113 (2011).

19. *Molecular spectroscopy for ground-state transfer of ultracold RbCs molecules*, M. Debatin, T. Takekoshi, R. Rameshan, L. Reichsöllner, **F. Ferlaino**, R. Grimm, R. Vexiau, N. Bouloufa, O. Dulieu, and H.-C. Nägerl, *Phys. Chem. Chem. Phys.* 42, 18926 (2011).
20. *Production of a dual-species Bose-Einstein condensate of Rb and Cs atoms*, A. D. Lercher, T. Takekoshi, M. Debatin, B. Schuster, R. Rameshan, **F. Ferlaino**, R. Grimm, and H.-C. Nägerl, *Eur. Phys. J. D*, 65, 1-2 (2011).
21. *Collisions of optically trapped ultracold cesium Feshbach molecules*, **F. Ferlaino**, S. Knoop, M. Berninger, M. Mark, H.-C. Nägerl, and R. Grimm, Special issue in memoriam Prof. Vladilen S. Letokhov, *Laser Phys.* 20, 1 (2010).
22. *Magnetically controlled exchange process in an ultracold atom-dimer mixture*, S. Knoop, **F. Ferlaino**, M. Berninger, M. Mark, H.-C. Nägerl, R. Grimm, J. P. D’Incao, and B. D. Esry, *Phys. Rev. Lett.* 104, 053201 (2010).
23. *Evidence for universal four-body states tied to an Efimov trimer*, **F. Ferlaino**, S. Knoop, M. Berninger, W. Harm, J. P. D’Incao, H.-C. Nägerl, and R. Grimm, *Phys. Rev. Lett.* 102, 140401 (2009); Selected as Editors' Suggestion, and featured in *Physics Viewpoint*.
24. *Observation of an Efimov-like trimer resonance in ultracold atom-dimer scattering*, S. Knoop, **F. Ferlaino**, M. Mark, M. Berninger, H. Schöbel, H.-C. Nägerl, and R. Grimm, *Nature Phys.* 5, 227 (2009).
25. *Collisions between tunable halo dimers: Exploring an elementary four-body process with identical bosons*, **F. Ferlaino**, S. Knoop, M. Mark, M. Berninger, H. Schöbel, H.-C. Nägerl, and R. Grimm, *Phys. Rev. Lett.*, 101, 023201 (2008).
26. *Observation of interspecies Feshbach resonances in an ultracold Rb-Cs mixture*, K. Pilch, A. D. Lange, A. Prantner, G. Kerner, **F. Ferlaino**, H.-C. Nägerl, and R. Grimm, *Phys. Rev. A* 79, 042718 (2009).
27. *Determination of atomic scattering lengths from measurements of molecular binding energies near Feshbach resonances*, A. D. Lange, K. Pilch, A. Prantner, **F. Ferlaino**, B. Engeser, H.-C. Nägerl, and R. Grimm, *Phys. Rev. A* 79, 013622 (2009).
28. *Metastable Feshbach molecules in high rotational states*, S. Knoop, M. Mark, **F. Ferlaino**, J. G. Danzl, T. Kraemer, H.-C. Nägerl, and R. Grimm, *Phys. Rev. Lett.*, 100, 083002 (2008).
29. *Spectroscopy of ultracold trapped cesium Feshbach molecules*, M. Mark, **F. Ferlaino**, S. Knoop, J. G. Danzl, T. Kraemer, C. Chin, H.-C. Nägerl, and R. Grimm, *Phys. Rev. A* 76, 042514 (2007).
30. *Control of the interaction in a Fermi-Bose mixture*, M. Zaccanti, C. D’Errico, **F. Ferlaino**, G. Roati, M. Inguscio, and G. Modugno, *Phys. Rev. A* 74, 041605 (2006).
31. *Feshbach spectroscopy of a K-Rb atomic mixture*, **F. Ferlaino**, C. D’Errico, G. Roati, M. Zaccanti, M. Inguscio, and G. Modugno, *Phys. Rev. A* 73, 040702(R) (2006).
32. *Insulating behavior of a trapped ideal fermi gas*, L. Pezzé, L. Pitaevskii, A. Smerzi, S. Stringari, G. Modugno, E. de Mirandes, **F. Ferlaino**, H. Ott, G. Roati, and M. Inguscio, *Phys. Rev. Lett.* 93, 120401 (2004).
33. *Radio Frequency Selective Addressing of Localized Atoms in a Periodic Potential*, H. Ott, E. de Mirandes, **F. Ferlaino**, G. Roati, V. Türck, G. Modugno, and M. Inguscio, *Phys. Rev. Lett.* 93, 120407 (2004).
34. *Atom interferometry with trapped Fermi gases*, G. Roati, E. de Mirandes, **F. Ferlaino**, H. Ott, G. Modugno, and M. Inguscio, *Phys. Rev. Lett.* 92, 230402 (2004).
35. *Collisionally induced transport in periodic potentials*, H. Ott, E. de Mirandes, **F. Ferlaino**, G. Roati, G. Modugno, and M. Inguscio, *Phys. Rev. Lett.* 92, 160601 (2004).
36. *Expansion of a Fermi gas interacting with a Bose-Einstein condensate*, **F. Ferlaino**, E. de Mirandes, G. Roati, G. Modugno, and M. Inguscio, *Phys. Rev. Lett.* 92, 140405 (2004).
37. *Mean-field analysis of the stability of a K-Rb Fermi-Bose mixture*, M. Modugno, **F. Ferlaino**, F. Riboli, G. Roati, G. Modugno, and M. Inguscio, *Phys. Rev. A* 68, 043626 (2003).
38. *Production of a Fermi gas of atoms in an optical lattice*, G. Modugno, **F. Ferlaino**, R. Heidemann, G. Roati, and M. Inguscio, *Phys. Rev. A* 68, 011601(R) (2003).
39. *Superfluid current disruption in a chain of weakly coupled Bose-Einstein Condensates*, F. S. Cataliotti, L. Fallani, **F. Ferlaino**, C. Fort, P. Maddaloni, and M. Inguscio, *New J. Phys.* 5, 71 (2003).

40. *Dipolar oscillations in a quantum degenerate Fermi-Bose atomic mixture*, **F. Ferlaino**, R. Brecha, P. Hannaford, F. Riboli, G. Roati, G. Modugno, and M. Inguscio, *J. Opt. B: Quantum Semiclass. Opt.* **5**, S3 (2003).
41. *Magnetic control of the interaction in ultracold K-Rb mixtures*, A. Simoni, **F. Ferlaino**, G. Roati, G. Modugno, and M. Inguscio, *Phys. Rev. Lett.* **90**, 163202 (2003).
42. *Collective excitations of a trapped Bose-Einstein condensate in the presence of a 1D optical lattice*, C. Fort, F. S. Cataliotti, L. Fallani, F. Ferlaino, P. Maddaloni, and M. Inguscio, *Phys. Rev. Lett.* **90**, 140405 (2003).
43. *Collapse of a degenerate Fermi gas*, G. Modugno, G. Roati, F. Riboli, **F. Ferlaino**, R. Brecha, and M. Inguscio, *Science* **297**, 2240 (2002).
44. *Dynamics of a Bose-Einstein condensate at finite temperature in an atom-optical coherence filter*, **F. Ferlaino**, P. Maddaloni, S. Burger, F. S. Cataliotti, C. Fort, M. Modugno, and M. Inguscio *Phys. Rev. A* **66**, 011604 (2002).

#### ***Book Chapters, Invited Articles, and Proceedings***

45. *Forty years of Efimov physics: How a bizarre prediction turned into a hot topic*, **F. Ferlaino**, R. Grimm, *Physics* **3**, 9 (2010).
46. *Book chapter in "Cold Molecules: Theory, Experiment, Applications" edited by R. V. Krems, B. Friedrich and W. C. Stwalley (2009)*, *Ultracold Feshbach Molecules*, **F. Ferlaino**, S. Knoop, and R. Grimm, arXiv:0809.3920.
47. I have also been co-author of about 8 articles in proceedings of international schools and conferences.