

The following is a list of references which are cited in the presentation, including some more related works. This is prepared to help students to find the references. It may be biased due to my personal interest since I do not intend a complete or fair listing. Further references can be found in Ref.[1-4].

This lecture is based on the following our recent works.

- [1] M. Matsuo, Phys. Rev. C **73**, 044309 (2006).
- [2] M. Matsuo, K. Mizuyama, and Y. Serizawa, Phys. Rev. C **71**, 064326 (2005).
- [3] M. Matsuo, Y. Serizawa, and K. Mizuyama, Nucl. Phys. **A788**, 307 (2007).
- [4] M. Matsuo, Nucl. Phys. **A696**, 371 (2001).

Two neutron halo nucleus ^{11}Li and the di-neutron correlation

- [5] I. Tanihata et al. Phys. Lett. **B287**, 307 (1992).
- [6] G. F. Bertsch and H. Esbensen, Ann. Phys. **209**, 327 (1991).
- [7] P. G. Hansen and B. Jonson, Europhys. Lett. **4**, 409 (1987).
- [8] K. Ikeda, Nucl. Phys. **A538**, 355c (1992).
- [9] M. V. Zhukov, B. V. Danilin, D. V. Fedorov, J. M. Bang, I. J. Thompson, and J. S. Vaagen, Phys. Rep. **231**, 151 (1993).
- [10] T. Myo, S. Aoyama, K. Kato, K. Ikeda Phys. Lett. **B 576**, 281 (2003)
- [11] K. Hagino, H. Sagawa, J. Carbonell, and P. Schuck, Phys. Rev. Lett. **99**, 022506 (2007).
- [12] T. Nakamura, et al. Phys. Rev. Lett. **96**, 252502 (2006)
- [13] S. Shimoura, et al. Phys. Lett. **B348**, 29 (1995).

Representative books/reviews on nuclear pairing correlation

- [14] A. Bohr and B. R. Mottelson, *Nuclear Structure* vol. II (Benjamin, 1975).
- [15] D.M. Brink and R.A. Broglia, *Nuclear Superfluidity: Pairing in Finite Systems* (Cambridge Univ. Press 2005).
- [16] D. J. Dean and M. Hjorth-Jensen, Rev. Mod. Phys. **75**, 607 (2003).

BCS theory of superconductivity

- [17] J. Bardeen, L. N. Cooper, and J. R. Schrieffer, Phys. Rev. **108**, 1175 (1957).
- [18] P. G. de Gennes, *Superconductivity of Metals and Alloys* (Benjamin 1966).
- [19] M. Tinkham, *Introduction to Superconductivity* (McGraw-Hill 1975).

BCS-BEC crossover

- [20] A. J. Leggett, in *Modern Trends in the Theory of Condensed Matter*, Lecture Note in Physics 115, ed. by A. Pekalski and R. Przystawa (Springer-Verlag, Berlin, 1980); J. de Phys. **41**, C7-19 (1980).
- [21] P. Nozières and S. Schmitt-Rink, J. Low Temp. Phys. **59**, 195 (1985).
- [22] J. R. Engelbrecht, M. Randeria, and C. A. R. Sá de Melo, Phys. Rev. B **55**, 15153 (1997).
- [23] M. Marini, F. Pistolesi, G. C. Strinati, Eur. Phys. J. B **1**, 151 (1998).
- [24] M. Randeria, in *Bose-Einstein Condensation*, ed. by A. Griffin, D. Snoke, and S. Stringari (Cambridge Univ. Press, Cambridge, 1995).
- [25] C. A. Regal, M. Greiner, and D. S. Jin, Phys. Rev. Lett. **92**, 040403 (2004).

Pairing in neutron/nuclear matter

- [27] T. Takatsuka and R. Tamagaki, Prog. Theor. Phys. Suppl. No. 112, 27 (1993).
- [28] U. Lombardo and H.-J. Schulze, Lecture Notes in Physics (Springer 2001), Vol.578, p.30.
- [29] D. J. Dean and M. Hjorth-Jensen, listed above.
- [30] M. Matsuo, Phys. Rev. C **73**, 044309 (2006).
- [31] G. Röpke, A. Schnell, P. Schuck, P. Nozières, Phys. Rev. Lett. **80**, 3177 (1998)

Hartree-Fock-Bogoliubov theory, the selfconsistent mean-field methods, the Skyrme functional (the Skyrme effective interaction)

- [32] J. Dobaczewski, H. Flocard, and J. Treiner, Nucl. Phys. **A422**, 103 (1984).
- [33] M. Bender, P.-H. Heenen and P.-G. Reinhard, Rev. Mod. Phys. **75**, 121 (2003).
- [34] P. Ring and P. Schuck, *The Nuclear Many-Body Problem*, (Springer-Verlag, 1980).

The density-dependent delta interaction.

- [35] G. F. Bertsch and H. Esbensen, listed above.
- [36] E. Garrido, P. Sarriguren, E. Moya de Guerra, and P. Schuck, Phys. Rev. C **60**, 064312 (1999).
- [37] M. Matsuo, Phys. Rev. C **73**, 044309 (2006).

Di-neutron correlation in medium and heavy mass neutron-rich nuclei

- [38] M. Matsuo, K. Mizuyama, and Y. Serizawa, Phys. Rev. C **71**,064326 (2005).
- [39] N. Pillet, N. Sandulescu, and P. Schuck, Phys. Rev. C **76**, 024310 (2007)

Low-lying E1 strength, soft dipole excitation, and the pygmy dipole resonances (Experiment)

- [40] T. Nakamura, et al. Phys. Rev. Lett. **96**, 252502 (2006)
- [41] A. Leistenschneider, et al. Phys. Rev. Lett. **86**, 5442 (2001).
- [42] P. Adrich, et al. Phys. Rev. Lett. **95**, 132501 (2005)
- [43] S. Volz, et al. Nucl. Phys. **A779**, 1 (2006)

Low-lying E1 strength, soft dipole excitation, and the pygmy dipole resonances (Theory)

- [44] Y. Suzuki, K. Ikeda, and H. Sato, Prog. Theor. Phys. **83**, 180 (1987).
- [45] G. F. Bertsch and H. Esbensen, Ann. Phys. **209**, 327 (1991).
- [46] H. Esbensen and G. F. Bertsch, Nucl. Phys. **A542**, 310 (1992).
- [47] H. Sagawa, N. Van Giai, N. Takigawa, M. Ishihara, and K. Yazaki, Z. Phys. **A351**, 385 (1995).
- [48] F. Catara, C. H. Dasso, and A. Vitturi, Nucl. Phys. **A602**, 181 (1996).
- [49] K. Hagino, H. Sagawa, J. Carbonell, and P. Schuck, Phys. Rev. Lett. **99**, 022506 (2007).
- [50] D. Vretenar, N. Paar, P. Ring, and G. A. Lalazissis, Phys. Rev. C **63**, 047301 (2001).
- [51] N. Paar, D. Vretenar, E. Khan, G. Colo Rep. Prog. Phys. **70**, 691 (2007)
- [52] M. Matsuo, K. Mizuyama, and Y. Serizawa, Phys. Rev. C **71**, 064326 (2005).
- [53] M. Matsuo, Y. Serizawa, and K. Mizuyama, Nucl. Phys. **A788**, 307 (2007).

Continuum QRPA method

- [54] M. Matsuo, Nucl. Phys. **A696**, 371 (2001).
- [55] M. Matsuo, Prog. Theor. Phys. Suppl. **146**, 110 (2002).
- [56] S. T. Belyaev, A. V. Smirnov, S. V. Tolokonnikov, and S. A. Fayans, Sov. J. Nucl. Phys. **45**, 783 (1987).
- [57] E. Khan, N. Sandulescu, M. Grasso, and Nguyen Van Giai, Phys. Rev. C **66**, 024309 (2002).
- [58] N. Paar, D. Vretenar, E. Khan, G. Colo Rep. Prog. Phys. **70**, 691 (2007)