Many-Body Systems out of Equilibrium

Winter Term 2018/19
Content

- Nonequilibrium Green’s functions: need of a “Keldysh” contour
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- Perturbation theory with Nonequilibrium Green’s functions: diagrams
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- Connection with methods for Open Quantum Systems (Master equations)
Many-body and Green’s functions in equilibrium:[Bruus and Flensberg(2004), Fetter and Walecka(1971)]
Many-body and Green’s functions in equilibrium: [Bruus and Flensberg (2004), Fetter and Walecka (1971)]

Lecture notes from M. Jarrell [Jarrell (????a)]
Literature

Nonequilibrium Green’s functions

- Book: [Haug and Jauho (1998)]
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- Book: [Haug and Jauho (1998)]
- Lecture notes from M. Jarrell [Jarrell (????b)]
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- See also notes by jauho [Jauho (????)]
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- See also notes by jauho [Jauho (????)]
- Short review article by Rammer and Smith [Rammer and Smith (1986)]
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- Application to molecular transport [Ryndyk et al.(2009)Ryndyk, Gutierrez, Song, and Cuniberti]
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- Application to molecular transport [Ryndyk et al. (2009) Ryndyk, Gutierrez, Song, and Cuniberti]
- A DFT approach [van Leeuwen (????)]
Open quantum systems

- Markov equation for the density matrix approach, Book: [Breuer and Petruccione(2009)]
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- Lecture notes by A. Fisher [Fisher(????a)]
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- More advanced on nonequilibrium mesoscopic systems [Brandes(2005), Schoeller(2009)]
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- More advanced on nonequilibrium mesoscopic systems [Brandes(2005), Schoeller(2009)]
- A collection of references [Many(????)]
URL http://www.sciencedirect.com/science/article/B6TVP-4FCSDMG-2/2/f74e72e3efc0ee8b22029719949f565f


[Many(????)] Many, ???? A collection of references on nonequilibrium systems http://www.freescience.info/Physics.php?id=266.
