

Chaos and Quantum Chaos

Summer term 2021

4. Exercise

(to be presented and discussed on Monday May 10)

4.1 Rational numbers

- a) Show that the rational number $\frac{a+c}{b+d}$ lies in between the rational numbers $\frac{a}{b}$ and $\frac{c}{d}$.
- b) Show that two consecutive rational approximants of an arbitrary real number σ (determined by truncation of the continued fraction expansion) span an interval that includes σ .