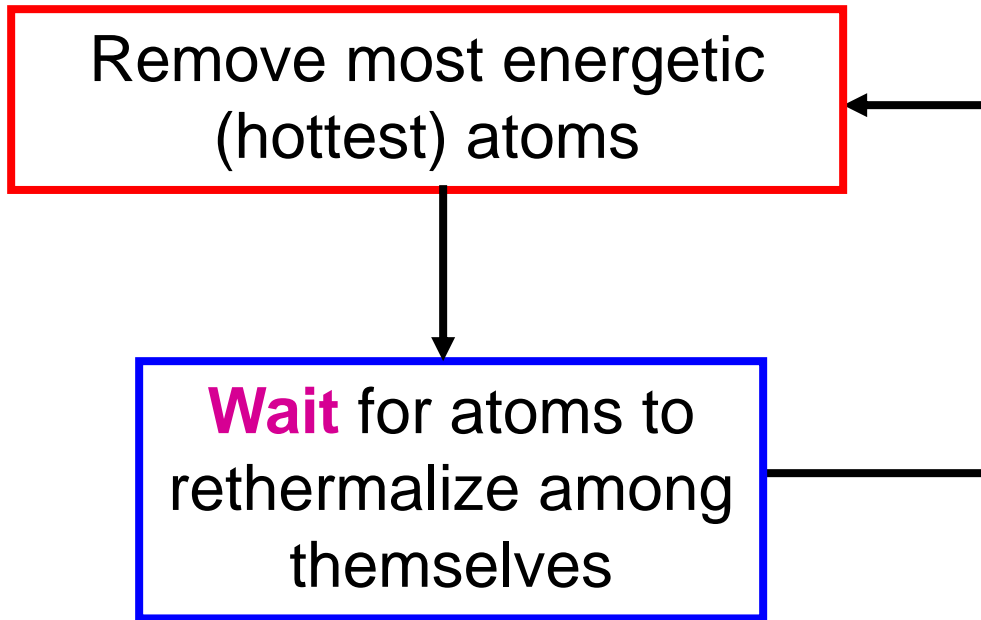


Important Dates

(undergraduate students)

1. Oral presentation on Tuesday, April 30.
2. Outline + Figures due on Thursday, April 25.
3. First draft of paper due on the day of oral presentation.
4. Final version of paper due on Thursday, May 2.

Evaporative Cooling

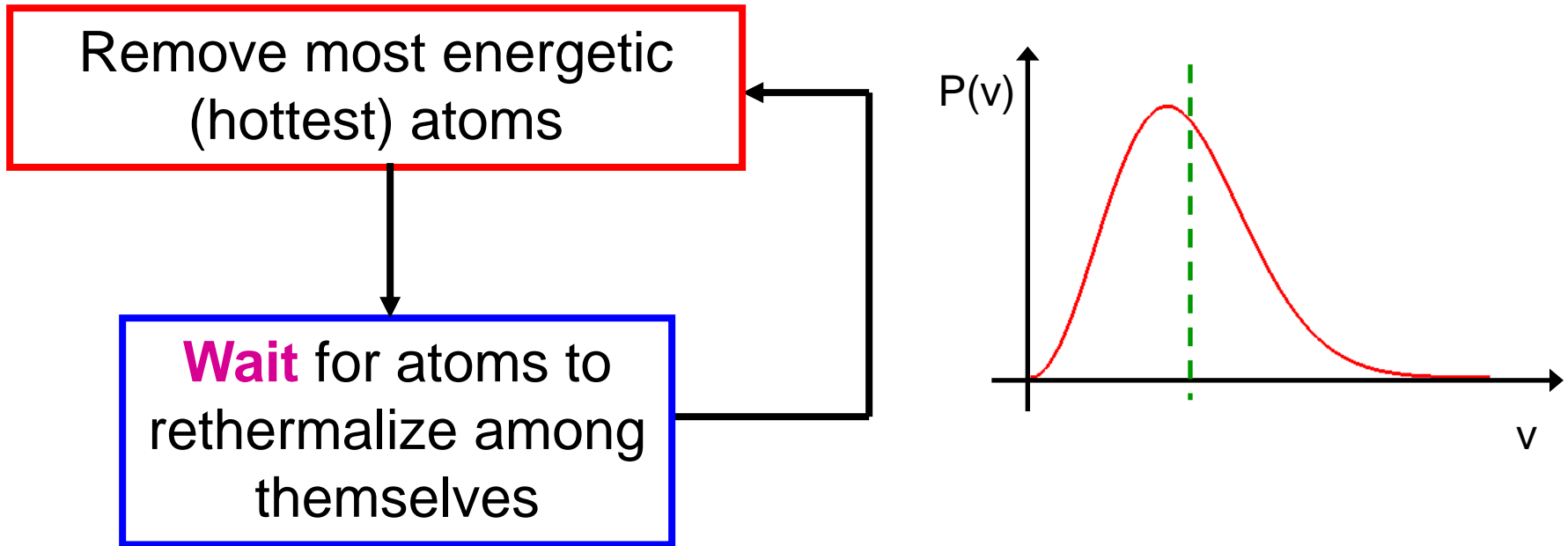


Wait time is given by the elastic collision rate $k_{elastic} = n \sigma v$

Macro-trap: low initial density, evaporation time $\sim 10\text{-}30$ s.

Micro-trap: high initial density, **evaporation time** $\sim 1\text{-}2$ s.

Evaporative Cooling



Wait time is given by the elastic collision rate $k_{elastic} = n \sigma v$

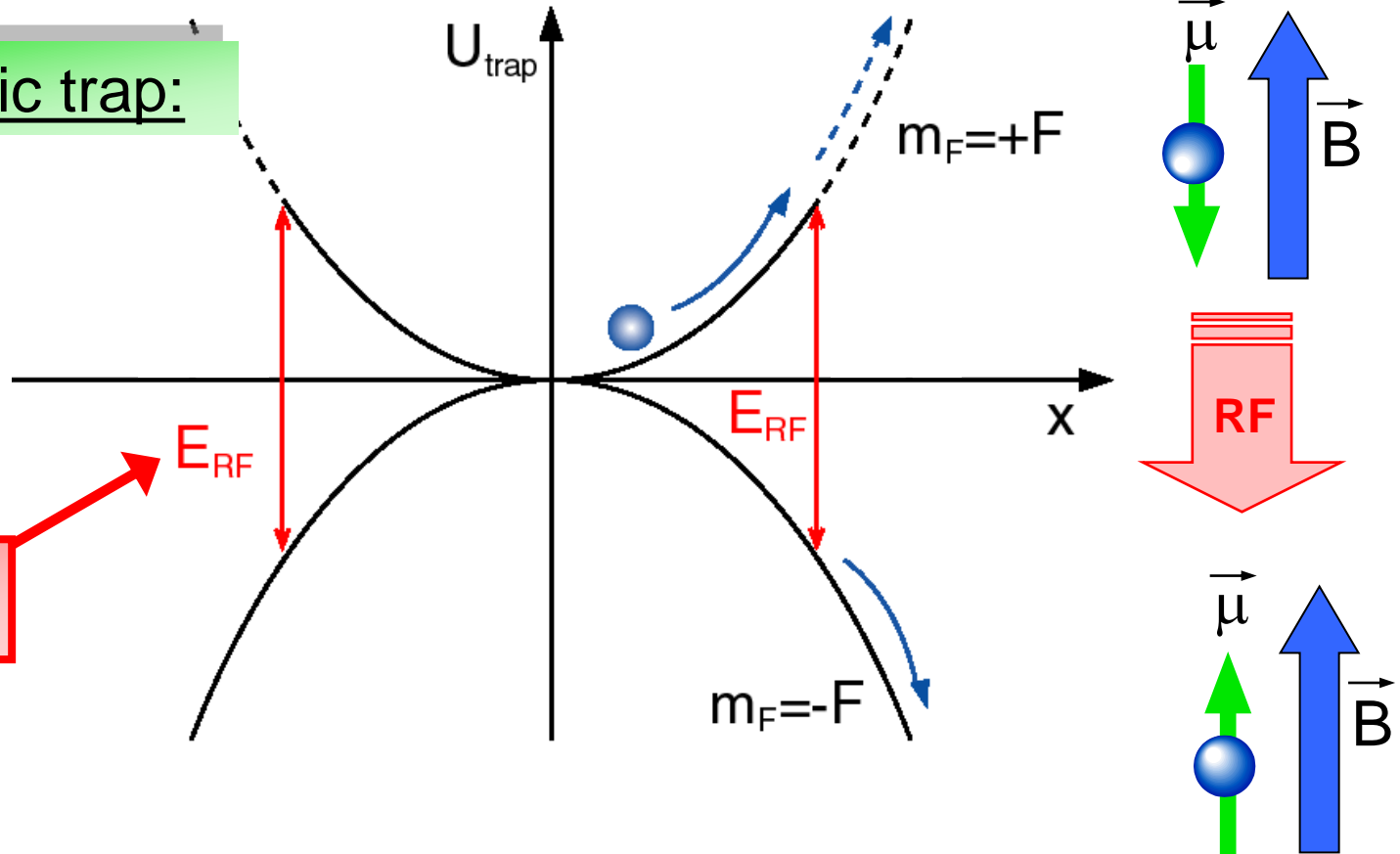
Macro-trap: low initial density, evaporation time $\sim 10-30$ s.

Micro-trap: high initial density, **evaporation time $\sim 1-2$ s.**

RF Evaporation

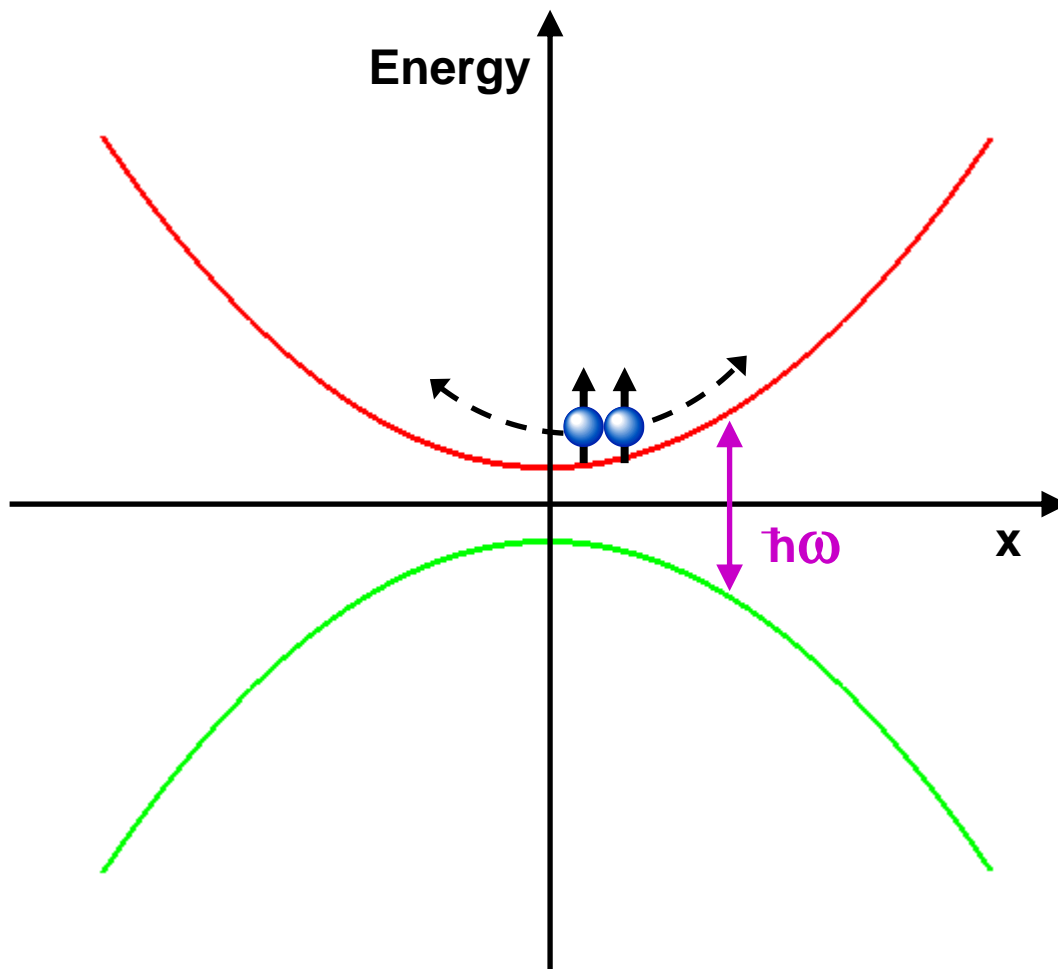
In a harmonic trap:

$$E_{RF} = \hbar\omega$$

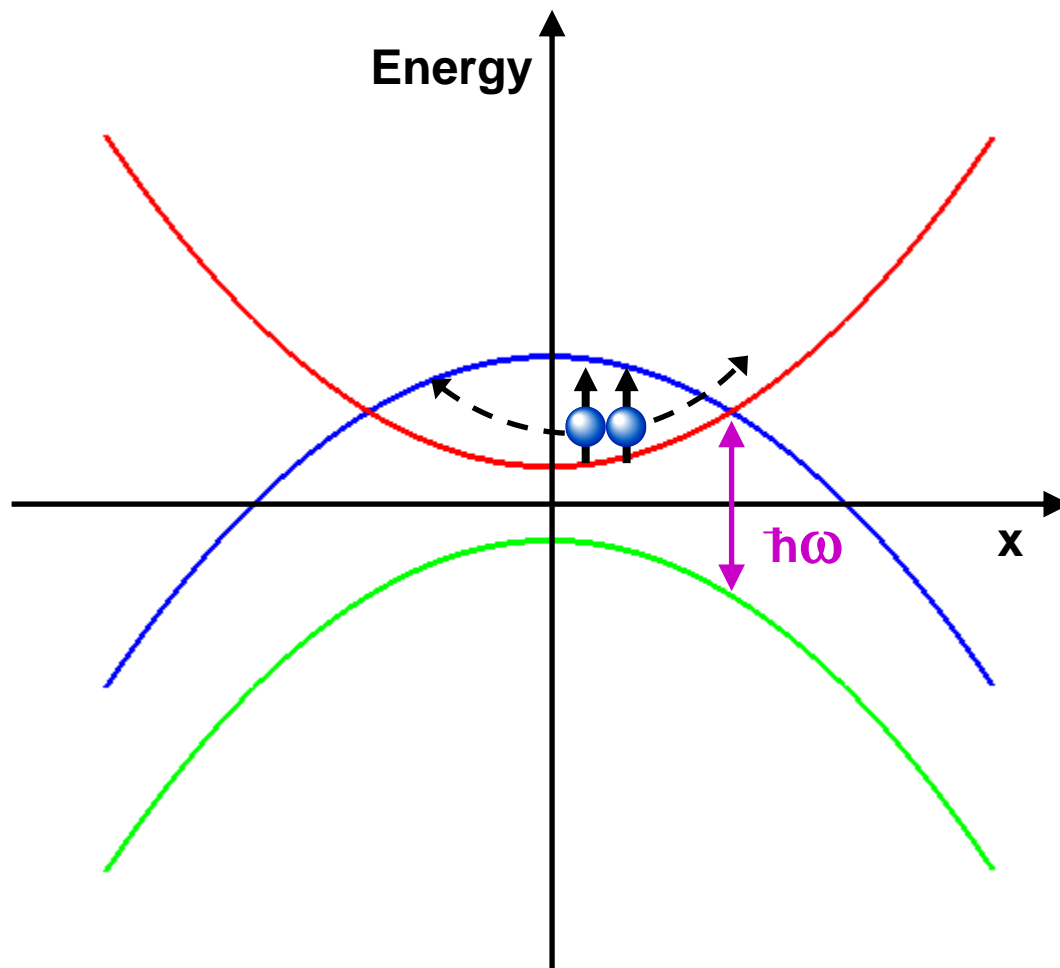


- **RF frequency** determines energy at which spin flip occurs.
- Sweep RF between 1 MHz and 30 MHz.

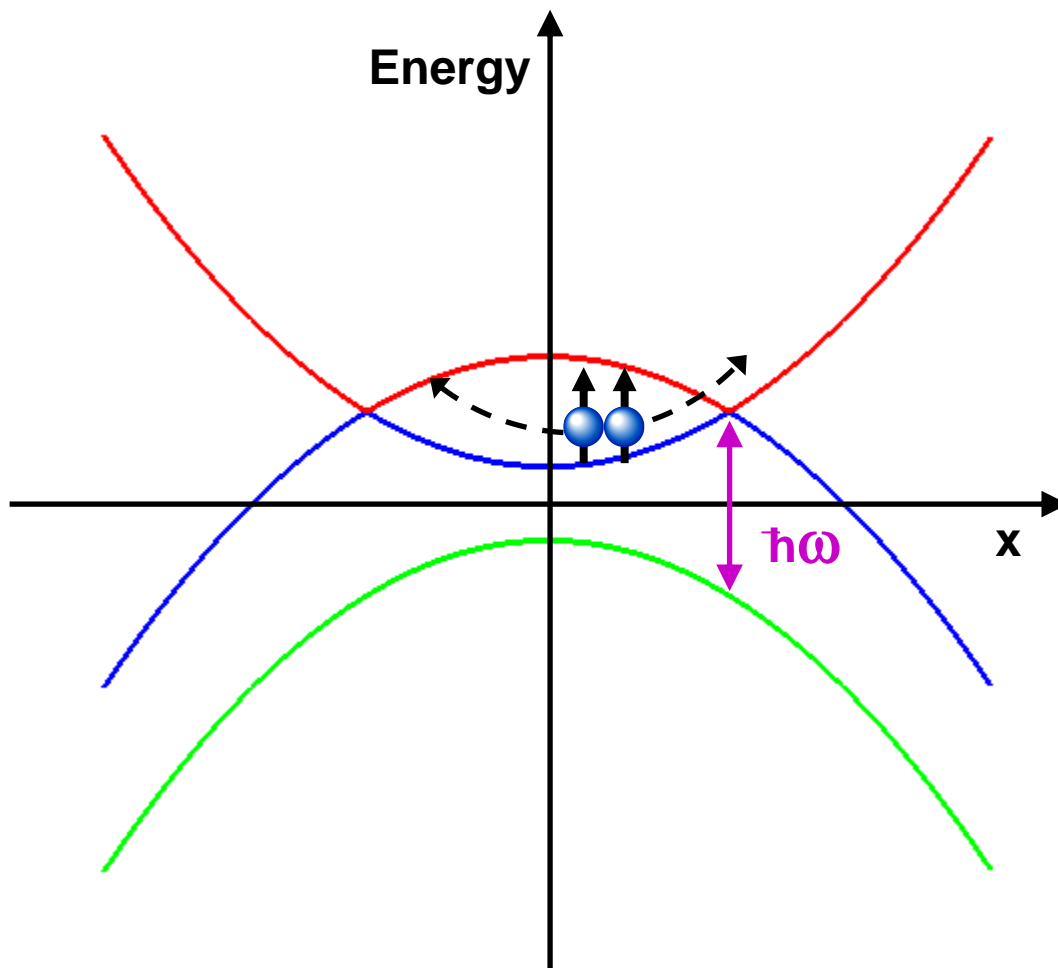
RF evaporation: dressed atom picture



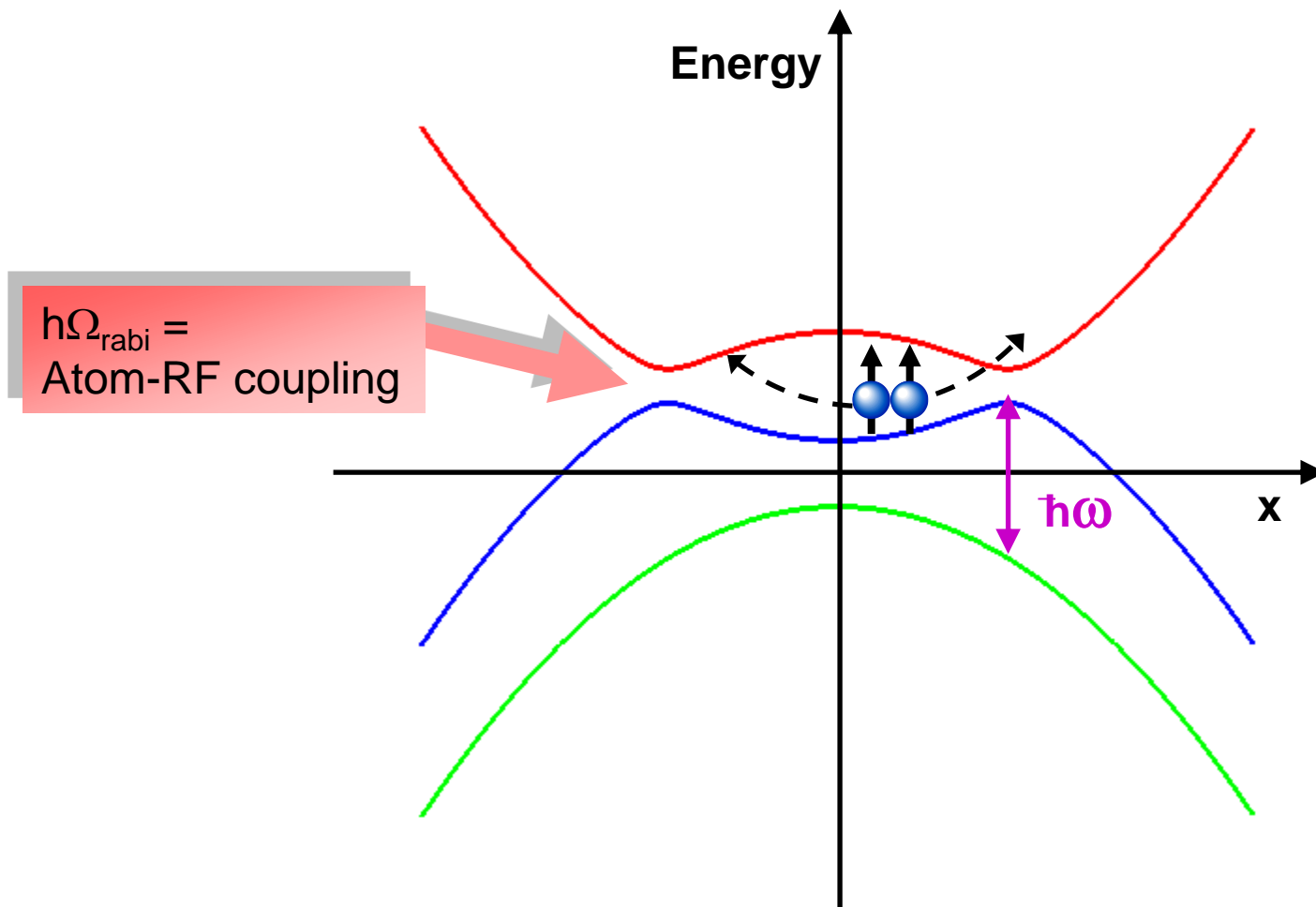
RF evaporation: dressed atom picture



RF evaporation: dressed atom picture



RF evaporation: dressed atom picture



RF evaporation: dressed atom picture

