anneal Documentation

Release 1.0

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Here I say something.

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real introduction

Simulated annealing

link

Method/problem decoupling

How to install

Note: This is a note admonition, concerning versions and requirements. This is the second line of the first paragraph.

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pip

pip with version

github

github with development version

just try

try it out, simple enough

Usage

how to use

anneal

anneal.**simulated_annealing**(*P*, *ID*, *beta_min=0.01*, *beta_max=100.0*, *cooling_rate=0.01*, *n_steps_per_T=100*, *E_min=-inf*, *quench_to_T0=False*, *n_steps_T0=1000*)

General-purpose simulated-annealing optimization function.

Parameters P : object

Instance of a custom class, wich includes attributes

- P.beta

- P.energy

and methods:

- P.set_beta(beta)

- P.MC_move(), returning 1/0 (accepted/rejected)

- P.update_MC_parameters(acc_ratio)

ID : str

Label for the problem under study.

beta_min : float, optional

Minimum inverse temperature (default: 1e-2)

beta_max: float, optional

Maximum inverse temperature (default: 1e2)

cooling_rate : float, optional

Cooling rate (default: 1e-2)

n_steps_per_T : int, optional

Number of MC moves attempted at each temperature (default: 100)

E_min : float, optional

Global energy minimum, if known (default: -infinity)

quench_to_T0 : bool, optional

If True, perform a T=0 quench at the end of the annealing

n_steps_T0 : int, optional

Number of MC moves after the T=0 quench

Returns P : object

Current version of P

E : list

List of the final energies for each temperature

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elapsed_time : float

> Total elapsed time, in seconds

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