

How to install VBDCMM

Dependency

VBDCMM is written in **python3** (<https://www.python.org/downloads/>)
by using following libraries.

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|-----|-------------------|
| (1) | numpy |
| (2) | scipy |
| (3) | matplotlib |
| (4) | cython |

Source codes

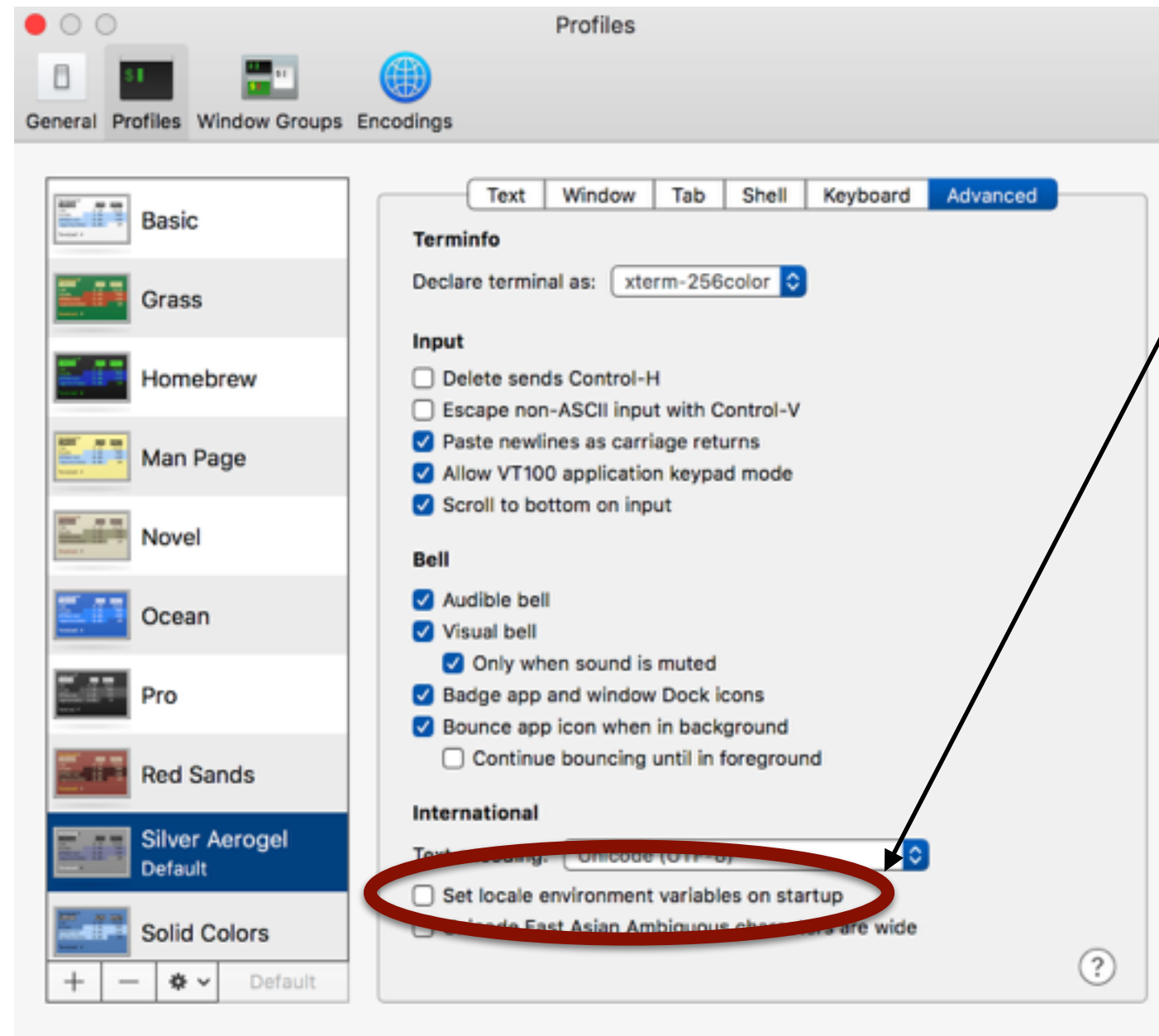
- (1) **VBDCMM_gui_simul.py:** GUI program that can generate synthetic data with dynamic disorder and analyse it.
- (2) **VBDCMM_gui_load.py:** GUI program that can load experimental data (1-D column vector) and analyse it
- (3) **VBDCMM_gui_functions.py:** It contains various functions used in above two files.
- (4) **vbDCMM_random_1_func.py:** Perform VB-DCMM one time with random initial conditions.
- (5) **vbDCMM_global_func.py:** Call “vbDCMM_random_1_func.py” several times to find global maximum.
- (6) **c_hmm_func.pyx:** cython file for Hidden Markov Modelling (HMM)
- (7) **c_dcmm4vb.pyx:** cython file for Double Chain Markov Modelling (DCMM)
- (8) **c_dcmm_viterbi.pyx:** cython file for Viterbi algorithm for DCMM.
- (9) **setup_c_*.py:** Files for compiling python files.
- (10) **basic_functions.py:** It contains functions used in other files.

1. OS X & Linux

1. **Install python3.5** (<https://www.python.org/downloads/>)
2. **Install PyPI:**
 1. <https://pip.pypa.io/en/stable/installing/>
 2. Download “get-pip.py”
 3. Open **terminal** and type: `sudo python3 get-pip.py` inside the folder where “get-pip.py” is.
3. **Install numpy, scipy, matplotlib, cython:**
 1. Open **terminal**
 2. Type: `sudo pip3 install numpy`
 3. Type: `sudo pip3 install scipy`
 4. Type: `sudo pip3 install matplotlib`
 5. Type: `sudo pip3 install cython`
4. **Download** VBDCMM source codes from “<https://github.com/TBiophysG/VBDCMM>”
5. Open **terminal**, go to the folder where VBDCMM files are
 1. Type: `sudo python3 setup_c_hmm.py build_ext --inplace`
 2. Type: `python3 setup_c_dcmm_viterbi.py build_ext --inplace`
 3. Type: `python3 setup_c_dcmm4vb.py build_ext --inplace`
6. Type: `python3 VBDCMM_gui_simul.py` (for simulation)
Type: `python3 VBDCMM_gui_load` (to analyse experimental data)

OS X

If “ValueError: unknown locale: UTF-8” occurs,
unmark “Set locale environment ...” in Terminal -> Preferences -> Profiles -> Advanced



2. Windows

Binary distribution will be available later.