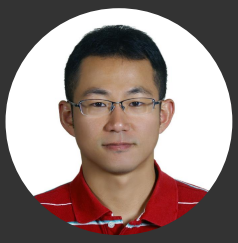
Dr. Po-Hsun Tseng (曾柏勳)

6+ years experience of finite-volume method with C/CUDA programming for HPC over my doctoral program. Seeking a challenging and rewarding opportunity with software development to apply my skills at a fabless/fab company.



CONTACT

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+886 966 587 832
Hsinchu, Taiwan
https://github.com/zengbs

SKILLS

Programming

- C
- Bash scripting
- CUDA
- OpenMPI
- OpenMP
- Python

Operating System

- Linux – user

Software & Tools

- Git
- Vim
- Gdb
- Valgrind

Languages

- Chinese (native)
- English

EDUCATION

Ph.D. in Computational Physics
National Taiwan University, Taiwan
08/2016 - 06/2022

- Developed a new algorithm in C/CUDA to reduce numerical error by 10^6 compared to conventional algorithm in finite-volume method. Published in *Monthly Notices of the Royal Astronomical Society* 2021 Vol. 504, pp. 3298-3315
- A main contributor of the GAMER, a hybrid GPU/OpenMPI/OpenMP finite-volume program for relativistic hydrodynamic simulations. (`https://github.com/gamer-project/gamer/graphs/contributors`)
- Designed a new approach to further promote the robustness of finite-volume program (GAMER) for research. The new approach was adopted in the research project led by Dr. Kuo-Chuan Pan from Tsing Hua University. (`https://github.com/gamer-project/gamer/pull/60`)
- Improved the GAMER collaborated with Dr. Tzihong Chiueh and Dr. Hsi-Yu Schive. See the Section *References*.
- Built NIS, NFS, and Linux cluster from scratch with colleagues.

WORK HISTORY

Circuit designer
TDK corporation, Singapore
01/2015 - 02/2016

- Designed the circuit of surface acoustic wave (SAW) filters

Military service
08/2013 - 08/2014

EDUCATION

M.Sc. in Physics
National Taiwan University, Taiwan
09/2011 - 07/2013

B.Sc. in Mathematics
National Central University, Taiwan
09/2006 - 07/2011

GENERAL SKILLS

Numerical algorithm | Large-scale project | cscope | makefile | GNU autotools

PUBLICATIONS

[1] An adaptive mesh, GPU-accelerated, and error minimized special relativistic hydrodynamics code

Po-Hsun Tseng, Hsi-Yu Schive, Tzihong Chiueh

Monthly Notices of the Royal Astronomical Society 2021 Vol. 504, pp. 3298-3315

https://doi.org/10.1093/mnras/stab1006

[2] The symmetry problem of the Fermi and eROSITA bubbles: A proof-of-concept study

Po-Hsun Tseng, Hsiang-Yi Karen Yang, Hsi-Yu Schive, Chun-Yen Chen, Tzihong Chiueh

preprint 2022

TALKS

- An adaptive-mesh, GPU-accelerated, and optimally error-controlled special relativistic hydrodynamics code
  Oral (remote), American Center for Physics College Park, U.S.A Mar. 2021
- A new and accurate code for simulating special relativistic hydrodynamics
  Oral, Annual Meeting of the Physical Society of Taiwan, NPTU. Feb. 2020

REFERENCES

- Please send an appointment letter to request a call. 😃
- Dr. Tzihong Chiueh
  Distinguished Professor, Institute of Astrophysics, National Taiwan University
  Taipei 10617, Taiwan
  chiuehth@phys.ntu.edu.tw
  +886 2 3366 8628

- Dr. Hsi-Yu Schive
  Assistant Professor, Institute of Astrophysics, National Taiwan University
  Taipei 10617, Taiwan
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  +886 2 3366 8644

- Dr. Hsiang-Yi Karen Yang
  Assistant Professor, Institute of Astronomy, National Tsing Hua University
  Hsinchu 30013, Taiwan
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