# **Burin Gumjudpai** – Full Lists of Publications

Sept, 2022

## Research Articles in International Journals/Conferences/ArXiv

(SPIRES: research citation database in High Energy Physics at http://www.slac.stanford.edu/spires/hep/)

(28 international journal papers + 6 other international articles, * denotes corresponding authorship)

1. Nopadhol Kamma (IF), Pitayuth Wongjun (IF and ThEP), Ratchaphat Nakarachinda (IF) and **Burin Gumjudpai** (IF and ThEP)
   "Traversable wormholes in massive gravity theory"
   Journal of Physics: Conference Series 1719 (2021) 012018 [Impact Factor (2020) = **0.540 | Q3]**

2. Chakkrit Kaeonikhom (ICG), Phongsaphat Rangdee (Phayao), Hooshyar Assadullahi (Portsmouth), **Burin Gumjudpai** (NAS, IF, ThEP), Jascha A. Schewtschenko (ICG), and David Wands (ICG)
   "Qualitative dynamics of interacting vacuum cosmologies"
   Physical Review D **102**, 123519 (2020)
   [arXiv: 2007.12181 [astro-ph.co]][Impact Factor (2019) = **4.380 | Q1]**

3. Chonticha Kritpetch (IF), Candrasyah Muhammad (IF) and **Burin Gumjudpai*** (IF and ThEP)
   "Holographic dark energy with non-minimal derivative coupling to gravity effects"
   Physics of the Dark Universe **30** (2020) 100712
   [arXiv: 2004.06214 [gr-qc]][Impact Factor (2019) = **4.473** | **Q1**]

4. **Burin Gumjudpai** (IF)
   "Thermodynamics Formulation of Economics" (Extended Abstract) (International Proceedings)
   Proc. Int. Conf. Thermo. 2.0, MA, USA (June 2020)
   [arXiv:2012.01505 [econ.GN]]
   (awarded the Richard Newbold Adams Medal 2020)

5. Chonticha Kritpetch (IF), Jarunee Sanongkhun (IF), Pichet Vanichchapongjaroen (IF) and **Burin Gumjudpai*** (IF and ThEP)
   "Non-linear Schrödinger-type formulation of scalar field cosmology: two barotropic fluids and exact solutions"
   Modern Physics Letters A **35**, No. 19 (2020) 2050157
   [arXiv:1908.11265 [gr-qc]][Impact Factor (2018) = **1.391**| **Q3**]

6. **Burin Gumjudpai*** (IF, ThEP, Econ NIDA) and Yuthana Sethapramote (Econ NIDA)
   "Effect structure in physics and hints to economics equation of state"
   Journal of Physics: Conference Series 1380 (2019) 012167
   [Impact Factor (2018) = **0.54** | **Q3**]

7. **Burin Gumjudpai*** (IF, ThEP, NIDA) and Yuthana Setthapramote (NIDA) (ArXiv Paper | Nat. Proc.)
   "Nature of thermodynamics equation of state towards economics equation of state"
   Proc. 11th Silpakorn University Research Fair, Silpakorn University, Thailand (2019)
   [arXiv:1907.07108 [physics.soc-ph]]

8. **Burin Gumjudpai** (IF, ThEP, NIDA)
   "Towards equation of state for a market: A thermodynamical paradigm of economics"
   Journal of Physics: Conference Series (2018) 1144: 012181
   [arXiv:1807.09595 [econ.GN]][Impact Factor (2017) = **0.52** | **Q3**]

9. Candrasyah Muhammad (IF), Somphoach Saichaemchan (IF) and **Burin Gumjudpai*** (IF)
"Palatini NMDC gravity: cosmological scalar field phase portraits in exponential potential"
Journal of Physics: Conference Series (2018) **1144**: 012128
[arXiv: 1808.10686[gr-qc]][Impact Factor (2017) = **0.52** | **Q3**]

10. Narakorn Kaewkhao (IF) and **Burin Gumjudpai*** (IF)
"Cosmology of non-minimal derivative coupling to gravity in Palatini formalism and its chaotic inflation"
Physics of the Dark Universe **20**, 20 (2018)
[arXiv: 1608.04014 [gr-qc]][Impact Factor (2017) = **6.509** | **Q1**]

11. Somphoach Saichaemchan (IF) and **Burin Gumjudpai*** (IF)
"Non-minimal derivative coupling in Palatini cosmology: acceleration in chaotic inflation potential"
Journal of Physics: Conference Series (2017) **901**: 012010
[arXiv: 1703.09663[gr-qc]][Impact Factor (2016) = **0.51** | **Q3**]

12. **Burin Gumjudpai** (IF)
"Born approximation in linear-time invariant system"
Journal of Physics: Conference Series (2017) **901**: 012173
[arXiv: 1511.06607[physics.class-ph] ][Impact Factor (2016) = **0.51** | **Q3**]

13. **Burin Gumjudpai*** (IF), Yuttana Jawralee (IF) and Narakorn Kaewkhao (IF)
"Ricci curvature non-minimal derivative coupling cosmology with field re-scaling"
General Relativity and Gravitation **49**, 120 (2017)
[arXiv: 1609.08189 [gr-qc]][Impact Factor (2016) = **1.618** | **Q2**]

14. **Burin Gumjudpai*** (IF, Naresuan U. and Abdus Salam ICTP) and Phongsaphat Rangdee (IF, Naresuan U.)
"Non-minimal derivative coupling gravity in cosmology"
General Relativity and Gravitation **47**, 140 (2015)
[arXiv:1511.00491 [gr-qc]][Impact Factor (2014) = **1.771** | **Q2**]

15. Rachan Rangdee (IF, Naresuan U.) and **Burin Gumjudpai*** (IF, Naresuan U.)
"Tachyonic (phantom) power-law cosmology"
Astrophysics and Space Science **349**, 975 (2014)
[arXiv: 1210.5550 [astro-ph.CO]] [Impact Factor (2013**)= 2.401** | **Q3**]

16. **Burin Gumjudpai** (IF, Naresuan U.)
"Quintessential power-law cosmology: dark energy equation of state"
Modern Physics Letters A **28**, 1350122 (2013)
[arXiv: 1307.4552 [astro-ph.CO]][Impact Factor (2012)=**1.11** | **Q3**]

17. **Burin Gumjudpai*** (IF, Naresuan U.) and Kiattisak Thepsuriya (IF, Naresuan U.)
"Scalar field power-law cosmology with spatial curvature and dark energy-dark matter interaction"
Astrophysics and Space Science **342,** 537 (2012)
[arXiv: 1207.2920 [astro-ph]] [Impact Factor (2011)= **1.686** | **Q3**]

18. Antonio De Felice, **Burin Gumjudpai** (IF, Naresuan U.) and Sanjay Jhingan (CTP, Jamia Millia)
"Cosmological constraints for an Eddington-Born-Infeld field"
Physical Review D **86,** 043525 (2012)
[arXiv: 1205.1168 [gr-qc]] [Impact Factor (2011)= **4.558** | **Q1**]

19. Chakkrit Kaewnikhom, **Burin Gumjudpai*** (TPTP, Naresuan U.) and Emmanuel N. Saridakis (Chongqing U., China)
"Observational constraints on phantom-power law cosmology"
Physics Letters B **695,** 45 (2011)
[arXiv: 1008.2182 [astro-ph.CO]] [Impact Factor (2010)= **5.255** | **Q1**]

20. **Burin Gumjudpai** (DAMTP, U. Cambridge and TPTP, Naresuan U.) ( ArXiv Paper | Review Monographs )
"Scalar field cosmology: its non-linear Schrödinger-type formulation"
Invited Review in Dark Energy-Current Advances and Ideas, Ed. Jeong Ryeol Choi, Research Signpost 2009
[arXiv: 0904.2746 [gr-qc]]

21. Theerakarn Phetnora, Roongtum Sooksan (TPTP, Naresuan U.) & **Burin Gumjudpai*** (TPTP, Naresuan U. & DAMTP, U. Cambridge)
"Phantom expansion with non-linear Schrödinger-type formulation of scalar field cosmology"
General Relativity and Gravitation **42,** 225 (2010)
[arXiv: 0805.3794 [gr-qc]][Impact Factor (2009)= **2.616 | Q2**]

22. **Burin Gumjudpai** (DAMTP, U. Cambridge & TPTP, Naresuan U.) and John Ward (U. Victoria, Canada)
"Generalised DBI-Quintessence"
Physical Review D **80,** 023528 (2009)
[arXiv: 0904.0472 [astro-ph.CO]] [Impact Factor (2008)= **5.050 | Q1**]

23. **Burin Gumjudpai** (TPTP, Naresuan U. and Suranaree U. of Tech.)
"Scalar field exact solutions for non-flat FLRW cosmology: A technique from non-linear Schrödinger-type formulation"
General Relativity and Gravitation **41,** 249 (2009)
[arXiv: 0710.3598 [gr-qc]] [Impact Factor (2008)= **1.803 | Q2**]

24. Kiattisak Tepsuriya (TPTP, Naresuan U. and NARIT) and **Burin Gumjudpai* (**TPTP, Naresuan U.) (ArXiv Paper)
"Determining scalar field potential in power-law cosmology with observational data"
Paper given as a talk at the 4th Siam GR+HEP+Cosmo Sympsoium, Phitsanulok, Thailand
[arXiv: 0904.2743 [astro-ph.CO]]

25. **Burin Gumjudpai** (DAMTP, U. Cambridge & TPTP, Naresuan U.)
"Slow-roll, acceleration, the Big Rip and WKB approximation in NLS-type formulation of scalar field cosmology"
Journal of Cosmology and Astroparticle Physics **09** (2008) 028
[arXiv: 0805.3796 [gr-qc]] [Impact Factor (2007)= **6.067 | Q2**]

26. **Burin Gumjudpai** (TPTP, Naresuan U.)
"Power-law expansion cosmology in Schrödinger-type formulation"
Astroparticle Physics **30,** 186 (2008)
[arXiv: 0706.3674 [gr-qc]] [Impact Factor (2007)= **3.483 | Q2**]

27. **Burin Gumjudpai** (TPTP, Naresuan U.) (ArXiv Paper | Nat. Jour.)
"Coupled phantom field in loop quantum cosmology"
Thai Journal of Physics Series 3: Proc. of the SIAM Phys. Cong. 2007, (invited talk at the Congress)
[arXiv:0706.3467 [gr-qc]]

28. Daris Samart and **Burin Gumjudpai*** (TPTP, Naresuan U.)
"Phantom field dynamics in loop quantum cosmology"
Physical Review D **76,** 043514 (2007)
[arXiv:0704.3414 [gr-qc]] [Impact Factor (2006)= **4.896 | Q1**]

29. **Burin Gumjudpai** (TPTP, Naresuan U.), Tapan Naskar (IUCAA, India) & John Ward (Queen Mary, U. London)
"A quintessentially geometric model"
Journal of Cosmology and Astroparticle Physics **11,** 006 (2006)
[arXiv: hep-ph/0603210] [Impact Factor (2005)= **6.739 | Q2**]

30. **Burin Gumjudpai** (TPTP, Naresuan U.), Tapan Naskar (IUCAA, India), M. Sami (IUCAA, India) and Shinji Tsujikawa (Gunma College, Japan)

"Coupled dark energy: Towards a general description of the dynamics"
Journal of Cosmology and Astroparticle Physics **06,** 007 (2005)
[arXiv: hep-th/0502191] [Impact Factor (2004)= **7.914 | Q2**]

31. Shinji Tsujikawa (ICG, U. Portsmouth) and **Burin Gumjudpai** (TPTP, Naresuan U.)
"Density perturbations in generalized Einstein scenarios and constraints on nonminimal couplings from the Cosmic Microwave Background"
Physical Review D **69,** 123523 (2004)
[arXiv: astro-ph/0402185] [Impact Factor (2003)= **4.358 | Q1**]

32. **Burin Gumjudpai** (ICG, U. Portsmouth)
"Brane-cosmology dynamics with induced gravity"
General Relativity and Gravitation **36,** 747 (2004)
[arXiv: gr-qc/0308046] [Impact Factor (2003)= **1.214 | Q2**]

33. **Burin Gumjudpai** (ICG, U. Portsmouth) (ArXiv Paper | Lecture Notes)
"Introductory overview of modern cosmology"
Proc. Second Tah Poe Int. School Cosmology: Modern Cosmology and the First Thai Phys. Univ. Symp. (also in the vol. lecture notes by B. Bassett, M. Kunz, S. Tsujikawa, F. Viniegra and N. Singh)
Department of Physics, Naresuan University, Phitsanulok, Thailand (2003)
[arXiv: astro-ph/0305063]

34. **Burin Gumjudpai,** Roy Maartens (ICG, U. Portsmouth) and Christopher Gordon (DAMTP, U. Cambridge)
"Density perturbations in a braneworld universe with dark radiation"
Classical and Quantum Gravity **20,** 3295 (2003)
[arXiv: gr-qc/0304067] [Impact Factor (2002)= **2.107 | Q1**]

# Research Articles in National Journals/Conferences
(all in English)

1. Phatchaya Maneekhum (IF, Naresuan U. and Dept. of Physics, Naresuan U.) and **Burin Gumjudpai** (IF Naresuan U.) "Scaling solutions in scalar field cosmology" Proc. of the SIAM Phys. Cong. 2012

2. Rachan Rangdee (IF, Naresuan U.) and **Burin Gumjudpai** (IF Naresuan U.)
"Power-law cosmology: tachyonic potential" Proc. of the SIAM Phys. Cong. 2012

3. **Burin Gumjudpai** (TPTP, Naresuan U.)
"Monte Carlo simulation of symmetric exchange spring in soft layer of YFe2/DyFe2 at near zero temperature"
Naresuan University Journal, 9 No. 2 (2001)

# Lecture Notes/Pedagogical Articles

### At Asian Regional Level/Unpublished

1. **Burin Gumjudpai** (TPTP, Naresuan U.)
"Introduction to cosmology"

Proc. the Third Thai School on Cosmology: The Early Universe and the Second Thai Physics and the Universe Symposium (also in the vol. lecture notes by R. Maartens, M. Hindmarsh, M. Kunz, T. Tanaka, N. Mustapha and D. Parkinson)
Department of Physics, Khon Kaen University, Khon Kaen, Thailand (2004)

### At National Level

1. **Burin Gumjudpai** (ICG, U. Portsmouth)
   "Newtonian cosmology"
   Proc. the First Tah Poe School on Cosmology: Introductory Cosmology (also in the vol. lecture notes by B. Bassett, C. Dariescu and M. A. Dariescu)
   Department of Physics, Naresuan University, Phitsanulok, Thailand (2002)

2. **Burin Gumjudpai** (TPTP, Naresuan U.)
   "Cosmic dark matter: a riddle of nature"
   Naresuan University Journal **8** No. 1 (2000)

3. **Burin Gumjudpai** (TPTP, Naresuan U.)
   "ฟิสิกส์วิทยาศาสตร์และปรัชญา (Physics, Science and Philosophy)"(inThai)
   Naresuan University Journal **5** No. 1 (1997)

# Thesis/Dissertation/Degree Reports

1. **Burin Gumjudpai**
   "Thermodynamics Formulation of Economics"
   M.Econ.(Financial Economics) Thesis
   Graduate School of Development Economics, National Institute of Development Administration (Jan. 2020)
   Supervisor: Yuthana Sethapramote

2. **Burin Gumjudpai**
   "Braneworld Effects on Cosmological Dynamics"
   Ph.D. Thesis
   Institute of Cosmology and Gravitation, University of Portsmouth (Oct. 2003)
   Supervisors: Roy Maartens and David Wands

3. **Burin Gumjudpai**
   "Craters Formation"
   Project Report for Cert. of Professional Development in Astronomy (with Distinction)
   Astrophysics Research Institute, Liverpool John Moores University (July 2000)

4. **Burin Gumjudpai**
   "Tunneling in Field Theory"
   Dissertation for M.Sc. in Physics
   Centre for Theoretical Physics, University of Sussex (Sept. 1999)
   Supervisor: Mark B. Hindmarsh

5. **Burin Gumjudpai**
   "Ferroelectric Properties of BaTiO3 Single Crystals" (in Thai)
   Independent Study Report for B.S. (Physics)
   Department of Physics, Chiang Mai University (March 1996)
   Supervisor: Gobwute Rujijanakul