

Research and Scientific Articles

[updated 10th July 2009] [in order of published dates]

2009 (4 international articles + 1 in press)

[Tot. International JIF 2007 = 7.606]

In Press

1. “Determining scalar field potential in power-law cosmology with observational data”
Kiattisak Thepsuriya (TPTP's FPC Naresuan U. and NARIT) and **Burin Gumjudpai** (TPTP's FPC Naresuan U.)
Submitted
[Impact Factor (2008) = N/A][Spines Cited **0** times]
Published: Submitted, appear on arXiv: April 2009: [arXiv: 0904.2743](https://arxiv.org/abs/0904.2743) [astro-ph.CO]

International

1. “Scalar field exact solutions for non-flat FLRW cosmology: A technique from non-linear Schrödinger-type formulation”
Burin Gumjudpai (TPTP's FPC Naresuan U. & Suranaree U. of Tech.)
General Relativity and Gravitation **41**, 249 (2009)
[Impact Factor (2007)= **1.455**] [Spines Cited **5** times]
Published: to appear, appear on arXiv: October 2007: [arXiv: 0710.3598](https://arxiv.org/abs/0710.3598) [gr-qc]
2. “Phantom expansion with non-linear Schrödinger-type formulation of scalar field cosmology”
Theerakarn Phetnora, **Roongtum Sooksan** (TPTP's FPC Naresuan U.) & **Burin Gumjudpai** (TPTP's FPC Naresuan U. & DAMTP, U. Cambridge)
accepted for publication in *General Relativity and Gravitation*
[Impact Factor (2007)= **1.455**] [Spines Cited **2** times]
Published: Submitted, appear on arXiv: May 2008: [arXiv: 0805.3794](https://arxiv.org/abs/0805.3794) [gr-qc]
3. “Generalised DBI-quintessence”
Burin Gumjudpai (DAMTP, U. Cambridge & TPTP's FPC Naresuan U.) & John Ward (U. Victoria, Canada)
accepted for publication in *Physical Review D*
[Impact Factor (2007) = **4.696**][Spines Cited **2** times]
Published: Submitted, appear on arXiv: April 2009: [arXiv:0904.0472](https://arxiv.org/abs/0904.0472) [astro-ph.CO]
4. “Scalar field cosmology: its non-linear Schrödinger-type formulation”
Burin Gumjudpai (DAMTP, U. Cambridge & TPTP's FPC Naresuan U.)
Invited review monograph in a book volume “Dark Energy-Current Advances and Ideas” Research Signpost (2009) |
Published: Submitted, appear on arXiv: April 2009: [arXiv:0904.2746](https://arxiv.org/abs/0904.2746) [astro-ph.CO]

2008 (4 international articles + 1 national article)

[Tot. International JIF 2007 = 11.986]

International

1. “Slow-roll, acceleration, the Big Rip and WKB approximation in NLS-type formulation of scalar field cosmology”
Burin Gumjudpai (DAMTP, U. Cambridge & TPTP's FPC Naresuan U.)
Jour. of Cosmol. & Astropart. Phys. **09**, 028 (2008)
[Impact Factor (2007)= **6.067**] [Spines Cited **2** times]
Published: September 2008, appear on arXiv: May 2008: [arXiv: 0805.3796](https://arxiv.org/abs/0805.3796) [gr-qc]
2. “Power-law expansion cosmology in Schrödinger-type formulation”
Burin Gumjudpai (TPTP's FPC Naresuan U.)
Astroparticle Physics **30**, 186 (2008)
[Impact Factor (2007)= **3.483**] [Spines Cited **4** times]
Published: September 2008, appear on arXiv: August 2007: [arXiv: 0706.3674](https://arxiv.org/abs/0706.3674) [gr-qc]
3. “Spin correlations in elastic e-e- scattering in QED”
Nattapong Yongram (TPTP's FPC Naresuan U.)

The European Physical Journal D **47**, 71 (2008)

[Impact Factor (2007)= **1.828**][Spires Cited **N/A** times]

Published: February 2008, appear on arXiv: June 2008: [arXiv: 0806.2244](https://arxiv.org/abs/0806.2244) [quant-ph]

4. “Ground-state energy eigenvalue calculation of the quantum mechanical well $V(x)=\{1/2\}kx^2+\lambda x^4$ via analytical transfer matrix method”

Artit Hutem & Chanun Sricheewin (TPTP's CMT Naresuan U.)

European Journal of Physics **29**, 577 (2008)

[Impact Factor (2007)= **0.608**][Spires Cited **N/A** times]

Published: April 2008, appear on arXiv: November 2007: [arXiv: 0711.1469](https://arxiv.org/abs/0711.1469) [cond-mat.other]

National

1. “Coupled phantom field in loop quantum cosmology”

Burin Gumjudpai (TPTP's FPC Naresuan U.)

Thai Journal of Physics Series 3: Proceedings of the SIAM Physics Congress 2007 and the Thai National Astronomy Meeting 2007

(full paper as invited talk) [Impact Factor (2007)= **N/A**] [Spires Cited **11** times]

Published: March 2008, appear on arXiv: June 2007: [arXiv: 0706.3467](https://arxiv.org/abs/0706.3467) [gr-qc]

2007 (1 international article)

[Tot. International JIF 2006 = 4.896]

International

1. “Phantom field dynamics in loop quantum cosmology”

Daris Samart and **Burin Gumjudpai** (TPTP's FPC Naresuan U.)

Physical Review D **76**, 043514 (2007)

[Impact Factor (2006)= **4.896**] [Spires Cited **30** times]

Published: August 2007, appear on arXiv: April 2007: [arXiv: 0704.3414](https://arxiv.org/abs/0704.3414) [gr-qc]

2006 (1 international article + 2 national articles)

[Tot. International JIF 2005 = 6.739]

International

1. “A quintessentially geometric model”

Burin Gumjudpai (TPTP's FPC, Naresuan U.), Tapan Naskar (IUCAA, Pune, India) & John Ward (Queen Mary, U. London)

Jour. of Cosmol. & Astropart. Phys. **11**, 006 (2006)

[Impact Factor (2005)= **6.739**] [Spires Cited **10** times]

Published: November 2006, appear on arXiv: March 2006: [arXiv: hep-ph/0603210](https://arxiv.org/abs/hep-ph/0603210)

National

1. “Israel junction conditions on hypersurface from variational principle approach”

Chakkrit Kaenikhom (TPTP's FPC Naresuan U.)

Proceedings from the 1st National Symposium on Physics Graduate Research

(full paper as contributed talk)

[Impact Factor (2005)= **N/A**] [Spires Cited **0** times]

Published: June 2006, appear on arXiv: **N/A**

2. “Cosmological dynamics from modified f(R) gravity in Einstein frame”

Daris Samart (TPTP's FPC Naresuan U.)

Proceedings from the 1st National Symposium on Physics Graduate Research

(full paper as contributed talk)

[Impact Factor (2005)= **N/A**] [Spires Cited **4** times]

Published: June 2006, appear on arXiv: June 2006: [arXiv: astro-ph/0606612](https://arxiv.org/abs/astro-ph/0606612)

2005 (1 international article)

[Tot. International JIF 2004 = 7.914]

International

1. “Coupled dark energy: Towards a general description of the dynamics”

Burin Gumjudpai (TPTP's FPC, Naresuan U.), Tapan Naskar (IUCAA, Pune, India), M. Sami (IUCAA, Pune, India) & Shinji

Tsujikawa (Gunma Nat. College of Tech., Japan)
Jour. of Cosmol. & Astropart. Phys. **06**, 007 (2005)
[Impact Factor (2004)= **7.914**] [Spines Cited **106** times]
Published: June 2005, appear on arXiv: Feb 2005: arXiv: hep-th/0502191

2004 (1 international article + 1 national article)

[Tot. International JIF 2003 = 4.358]

International

1. “Density perturbations in generalized Einstein scenarios and constraints on nonminimal couplings from the cosmic microwave background”
Shinji Tsujikawa (ICG Portsmouth) & **Burin Gumjudpai** (TPTP's FPC Naresuan U.)
Physical Review D **69**, 123523 (2004)
[Impact Factor (2003)= **4.358**] [Spines Cited **37** times]
Published: June 2004, appear on arXiv: Feb 2004: arXiv: astro-ph/0402185

National

1. “Introduction to Cosmology”
Burin Gumjudpai (TPTP's FPC Naresuan U.)
Pedagogical Lecture Notes in “Proc. of the Third Thai School on Cosmology” Khon Kaen University (2004)

2001 (1 national article)

National

1. “Monte-Carlo simulation of symmetric exchange spring in soft layer of YFe₂/DyFe₂ at near zero temperature”
Burin Gumjudpai (TPTP Naresuan U.)
Naresuan University Journal **9** No. 2 (2001)
[Impact Factor (2000)= N/A]
Published: Dec 2001

2000 (1 national article)

National

1. “Cosmic dark matter: a riddle of nature”
Burin Gumjudpai (TPTP Naresuan U.)
Naresuan University Journal **8** No. 1 (2000)
[Impact Factor (1999)= N/A]
Published: June 2000

1997 (1 national article)

National

1. “ฟิสิกส์ วิทยาศาสตร์ และ ปรัชญา (Physics, science and philosophy)” (in Thai)
Burin Gumjudpai (TPTP Naresuan U.)
Naresuan University Journal **5** No. 1 (1997)
[Impact Factor (1996)= N/A]
Published: June 1997