

(2) 発表論文リスト

査読付き論文

1. *Photoelectric disintegration of ^{16}O* ,
M. Katsuma,
Phys. Rev. C 90, 068801 (2014).
2. *High spin resonant states in ^{16}O* ,
M. Katsuma,
J. Phys. G40, 025107 (2013).
3. *Theoretical reaction rates of $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ below $T_9=3$* ,
M. Katsuma,
The Astrophysical Journal 745, 192 (2012).
4. *Almost complete transparency of the $\alpha + ^{12}\text{C}$ system at sub-barrier energies*,
M. Katsuma,
Phys. Rev. C 81, 067603 (2010).
5. *Reply to "Comment on 'Low-energy cross sections in the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction'"*,
M. Katsuma,
Phys. Rev. C 81, 029804 (2010).
6. *Low-energy cross sections in the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction*,
M. Katsuma,
Phys. Rev. C 78, 034606 (2008).
7. *Percolation-fission model study of the 1 GeV proton-induced reaction on ^{208}Pb targets*,
M. Katsuma, H. Kobayashi, T. Sasa, T. Sawada,
Phys. Rev. C 71, 044605 (2005).
8. *Rotational bands with cluster structure for ^{24}Mg , ^{28}Si and ^{32}S* ,
Y. Kondō and M. Katsuma,
Nucl. Phys. A 738, 226 (2004).
9. *Coupled-channels study of the nuclear rainbow phenomena for the $^{16}\text{O}+^{16}\text{O}$ system*,
M. Katsuma, Y. Sakuragi, S. Okabe and Y. Kondō,
Progress of Theoretical Physics 107, 377 (2002).
10. *Spin-orbit interactions for ^3He -nucleus scattering at intermediate energies*,
Y. Sakuragi and M. Katsuma,
Nuclear Instruments and Methods in Physics Research A 402, 347 (1998).

Journal

11. *Additional resonant contribution to the potential model for the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction*,
M. Katsuma,
arXiv:1404.3966 [nucl-th] (2014)
12. 天体核反応における直接核反応過程からの寄与 (和文)
勝間正彦,
素粒子論研究電子版 Vol.10 (2011) No.2, p163.
13. *Heavy ion resonances of the $^{16}\text{O}+^{16}\text{O}$ system in multi-cluster exit channels*,
M. Katsuma,
原子核研究 43 (1999), 145-151.

Proceedings

14. Theoretical reaction rates of the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction from the potential model,
M. Katsuma,
Proceedings of Nuclei in the Cosmos XIII, Debrecen, Hungary, 7-11 July 2014,
PoS(NIC XIII)106 (2015).
15. $\alpha + ^{12}\text{C}$ rotational bands in ^{16}O ,
M. Katsuma,
Proceedings of International Nuclear Physics Conference (INPC), Firenze, Italy 2-7
June 2013, EPJ Web of Conferences 66, 03041 (2014).
16. Systematic analysis of astrophysical S-factors and thermonuclear reaction rates,
M. Katsuma,
Proceedings of the 2nd International Conference on Frontiers in Nuclear Structure,
Astrophysics and Reactions (FINUSTAR2), Aghios Nikolaos, Crete, Greece, 10-14
September 2007, AIP Conf. Proc. 1012, 365 (2008).
17. From the microcosm of the atomic nuclei to the macrocosm of the stars,
M. Arnould and M. Katsuma,
Proc. Int. Conf. on Nucl. Data for Sci. and Tech. 2007 (ND2007), Nice, France, 22-27
April 2007, p.5 (EDP Sciences).
18. A status report of the data evaluation in the NACRE update and extension project,
M. Katsuma,
Proceedings of Tours Symposium on Nuclear Physics VI, Tours, France, 5-8 September
2006, AIP Conf. Proc. 891, 355 (2007).
19. R-matrix and potential model extrapolations for NACRE update and extension project,
M. Aikawa, K. Arai, M. Katsuma, K. Takahashi, M. Arnould and H. Utsunomiya,
Proceedings of Int. Symp. on Origin of Matter and Evolution of Galaxies 2005
(OMEG05), Tokyo, Japan, 8-11 November 2005, AIP Conf. Proc. 847, 359 (2006).
20. Spallation yields predictions in an ADS target system for source term evaluation,
T. Sawada, M. Katsuma, H. Kobayashi, T. Sasa, V. Artysyuk and M. Saito,
Proceedings of GLOBAL 2005, International Conference, Nuclear Energy Systems for
Future Generation and Global Sustainability, 9-13 October 2005, Tsukuba, Japan,
paper 553.
21. Percolation-fission model study of the fragment mass distribution for the 1 GeV proton
induced reaction,
M. Katsuma, H. Kobayashi, T. Sasa and T. Sawada,
Proceedings of the 2004 Symposium on Nuclear Data (SND2004), JAERI Tokai, Japan,
11-12 November 2004, (JAERI-Conf 2005-005).
22. Double-folding potentials for the $^{16}\text{O}+^{16}\text{O}$ system in the coupled-channels framework,
M. Katsuma, Y. Sakuragi, S. Okabe and Y. Kondō,
Proceedings of the International Symposium on Clustering Aspects of Quantum
Manybody Systems (POSTYK01), Kyoto, Japan, 12-14 November 2001, p115-118
(World Scientific, 2002).
23. Microscopic coupled-channel study of heavy-ion resonances in multi-cluster exit
channels,
Y. Sakuragi, M. Ito, M. Katsuma, M. Takashina, Y. Kudo, Y. Hirabayashi, S. Okabe and Y.
Abe,
Proceedings of the 7th International Conference on Clustering Aspects of Nuclear

Structure and Dynamics, Island of Rab, Croatia, 14-19 June 1999, p138-142 (World Scientific, 1999).

24. *Heavy-ion resonance and multi-cluster states in highly excited nuclei*,
Y. Sakuragi, M. Ito, M. Katsuma, M. Takashina, Y. Kudo, Y. Hirabayashi, S. Okabe and Y. Abe,
Proceedings of the International Workshop on Collective Excitations in Fermi and Bose Systems, São Paulo, Brazil, 14-17 September 1998, p483-497 (World Scientific, 1998).
25. *Heavy-ion resonance and multi-cluster states in highly excited nuclei*,
Y. Sakuragi, M. Ito, M. Katsuma, M. Takashina, Y. Hirabayashi, S. Okabe and Y. Abe,
Proceedings of the XVII RCNP International Symposium on Innovative Computational Methods in Nuclear Many-Body Problems (INNOCOM 97), Osaka, Japan, 10-15 November 1997, p196-204 (World Scientific, 1998).

和文報告書

26. ポテンシャル散乱の Web オンライン計算 (和文)
勝間正彦,
荷電粒子核反応データファイル年次報告 No.17 (2003 年度) pp.3-11.

博士論文

27. *Coupled-channels study of the nuclear rainbow phenomena for the $^{16}\text{O}+^{16}\text{O}$ system*,
M. Katsuma,
大阪市立大学理学研究科, 2002 年 1 月 8 日.

修士論文

28. $^{16}\text{O}+^{16}\text{O}$ 系の重イオン共鳴と ^{32}S の多クラスター状態
勝間正彦,
大阪市立大学理学研究科, 1998 年 2 月 27 日.

著書

29. *Oxygen in the Universe*,
G. Stasinska, N. Prantzos, G. Meynet, S. Simon-Diaz, C. Chiappini, M. Dessauges-Zavadsky, C. Charbonnel, H.-G. Ludwig, C. Mendoza, N. Grevesse, M. Arnould, B. Barbuy, Y. Lebreton, A. Decourchelle, V. Hill, P. Ferrando, G. Hebrard, F. Durret, M. Katsuma, C.J. Zeippen,
EAS Publications Series, Volume 54, (2012).

研究会発表

30. *Theoretical reaction rates of the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction from the potential model*,
[Poster Presentation]
M. Katsuma,
Nuclei in the Cosmos XIII (NIC XIII), Debrecen, Hungary, 7-11 July 2014.
31. *Astrophysical S factors and thermonuclear reaction rates for the $^{12}\text{C}(\alpha, \gamma)^{16}\text{O}$ reaction*
[Poster Presentation],
M. Katsuma,
International Nuclear Physics Conference (INPC2013), Firenze, Italy, 2-7 June 2013.

32. $\alpha + {}^{12}\text{C}$ rotational bands in ${}^{16}\text{O}$ [Poster Presentation],
M. Katsuma,
International Nuclear Physics Conference (INPC2013), Firenze, Italy, 2-7 June 2013.
33. Low-energy cross sections from direct reaction models,
M. Katsuma,
Demokritos institute, Athens Greece, 9 April 2009.
34. Systematic analysis of astrophysical S-factors and thermonuclear reaction rates,
[Poster Session]
M. Katsuma,
2nd International Conference on Frontiers in Nuclear Structure, Astrophysics and Reactions (FINUSTAR2), Aghios Nikolaos, Crete, Greece, 10-14 September 2007.
35. The NACRE II project,
M. Katsuma,
23rd Meeting between Astrophysicists and Nuclear Physicists, Brussels, Belgium, 11 December 2006.
36. A status report of the NACRE update and extension project,
M. Katsuma,
Tours Symposium on Nuclear Physics VI, Tours, France, 5-8 September 2006.
37. Phenomenological model calculations of astrophysical S-factors of radiative capture reactions,
M. Katsuma,
13th Workshop on "Nuclear Astrophysics", Ringberg Castle, Tegernsee, Germany, 3-7 April 2006.
38. NACRE update and extension project - Phenomenological analyses of radiative capture reactions,
M. Katsuma, M. Aikawa, K. Arai, M. Arnould, K. Takahashi and H. Utsunomiya,
22nd Meeting between Astrophysicists and Nuclear Physicists, Brussels, Belgium, 12-13 December 2005.
39. Percolation-fission model calculations of spallation residues in the 1-GeV proton-induced reaction on ${}^{208}\text{Pb}$ targets, [Poster Session]
M. Katsuma and T. Sawada,
M&C 2005 International Topical Meeting on Mathematics and Computation, Supercomputing, Reactor Physics and Nuclear Biological Applications, Avignon, France, 12-15 September 2005.
40. Percolation-fission model study of the fragment mass distribution for the 1 GeV proton induced reaction, [Poster Session]
M. Katsuma, H. Kobayashi, T. Sasa and T. Sawada,
The 2004 Symposium on Nuclear Data (SND2004), JAERI Tokai, Japan, 11-12 November 2004.
41. Functional forms of the optical potential for rainbow scattering in the ${}^{16}\text{O}+{}^{16}\text{O}$ system, [Poster Session]
M. Katsuma, Y. Sakuragi and Y. Kondō,
The 8th International Conference on Clustering Aspects of Nuclear Structure and Dynamics, Nara, Japan, 24-29 November 2003.
42. Microscopic spin-orbit potentials for ${}^3\text{He}$ elastic scattering at intermediate energies,
勝間正彦, 桜木千典,
「中間エネルギーイオンビームによる物理」研究会, RCNP 大阪大学, 2002年4月4日.

43. *Double-folding potentials for the $^{16}\text{O}+^{16}\text{O}$ system in the coupled-channels framework*,
M. Katsuma, Y. Sakuragi, S. Okabe and Y. Kondō,
The International Symposium on Clustering Aspects of Quantum Manybody Systems
(POSTYK01), Kyoto, Japan, 12-14 November 2001.
44. *Double-folding potentials for the $^{16}\text{O}+^{16}\text{O}$ system in the coupled-channels framework*,
勝間正彦, 桜木千典, 岡部成玄, 近藤祥夫,
「クラスター物理と不安定核」研究会, 理化学研究所, 2001年8月31日.
45. *Heavy ion resonances of the $^{16}\text{O}+^{16}\text{O}$ system in multi-cluster exit channels*, [Poster
Session]
M. Katsuma, M. Ito and Y. Sakuragi,
The 7th International Conference on Clustering Aspects of Nuclear Structure and
Dynamics, Island of Rab, Croatia, 14-19 June 1999.
46. *Microscopic study of spin-orbit interaction for ^3He -nucleus scattering*,
勝間正彦, 桜木千典,
「スピン物理」研究会, RCNP 大阪大学, 1998年8月3日.
47. *Spin-orbit interaction for ^3He -nucleus scattering at low to intermediate energies*,
M. Katsuma and Y. Sakuragi,
International One-Day Discussion Meeting on Cluster Structure and Nuclear Reaction
Mechanisms, Osaka, 24 September 1997.

日本物理学会

48. *Systematic analysis of astrophysical S -factors and thermonuclear reaction rates*,
勝間正彦,
[Symposium talk] 日本物理学会第62回年次大会, 北海道大学, 2007年9月21日.
49. *A coupled-channels analysis of single and mutual inelastic scattering to the 3- state
($E_{ex} = 6.13$ MeV) for the $^{16}\text{O}+^{16}\text{O}$ system*,
勝間正彦, 桜木千典, 近藤祥夫,
日本物理学会第58回年次大会, 東北学院大学, 2003年3月29日.
50. *Folding model analyses of low energy resonant structures in the $^{16}\text{O}+^{16}\text{O}$ system*,
勝間正彦, 桜木千典, 近藤祥夫,
日本物理学会2002年秋季大会, 立教大学, 2002年9月13日.
51. *Folding model analyses of polarized ^3He elastic scattering*,
勝間正彦, 桜木千典, 神谷潤一郎, 畑中吉治,
日本物理学会2002年秋季大会, 立教大学, 2002年9月13日.
52. *Coupled-channels study of the nuclear rainbow phenomena for the $^{16}\text{O}+^{16}\text{O}$ system
(II)*,
勝間正彦, 桜木千典, 岡部成玄, 近藤祥夫,
日本物理学会第56回年次大会, 中央大学, 2001年3月28日.
53. *Coupled-channels study of the nuclear rainbow phenomena for the $^{16}\text{O}+^{16}\text{O}$ system*,
勝間正彦, 桜木千典, 岡部成玄, 近藤祥夫,
日本物理学会第55回年次大会, 新潟大学, 2000年9月22日.
54. $^{16}\text{O}+^{16}\text{O}$ 系における多クラスター放出チャンネルの共鳴構造,
勝間正彦, 伊藤誠, 桜木千典, 岡部成玄, 阿部恭久,
日本物理学会第54回年会, 広島大学, 1999年3月28日.
55. *single folding および double folding 模型による重陽子弾性散乱*,
井芹康統, 勝間正彦, 桜木千典, 谷藤惇,
日本物理学会1998年秋の分科会, 秋田大学, 1998年10月3日.

56. $^{16}\text{O}+^{16}\text{O}$ 系の重イオン共鳴と ^{32}S の多クラスター状態,
勝間正彦, 伊藤誠, 桜木千典, 岡部成玄, 阿部恭久,
日本物理学会第53回年会, 東邦大学・日本大学, 1998年3月31日.