

教 員 選 考 調 書

就 任 予 定 職 名	主配置	配 置	最終卒業学校 学部学科名 卒業年月	学 位	著 書 学 術 論 文	性 別	(ふりがな) 氏 名
	専 攻	専 攻					
	講 座	講 座					
教授	理学研究科	-	京都大学大学院 理学研究科 物理学第二専攻 博士後期課程 1993年3月修了	博士(理学) (京都大学)	別紙の とおり	女	(なかむら あきこ) 中村 昭子
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年 月	事 項
	(学 歴)
1983年3月	徳島県立富岡西高等学校 卒業
1984年4月	京都大学理学部 入学
1988年3月	同上 卒業
1988年4月	京都大学大学院理学研究科物理学第二専攻 修士課程 入学
1990年3月	同上 修了
1990年4月	京都大学大学院理学研究科物理学第二専攻 博士後期課程 進学
1993年3月	同上 修了
	(学 位)
1990年3月	理学修士(京都大学)
1993年3月	博士(理学)(京都大学)
	(職歴・研究歴)
1992年4月	日本学術振興会特別研究員(～1993年3月)
1993年4月	宇宙科学研究所惑星研究系助手
1994年7月	文部省在外研究員(Jet Propulsion Laboratory, ～1994年9月)
1998年4月	神戸大学大学院自然科学研究科助教授
2007年4月	神戸大学大学院理学研究科准教授
	————— 現在に至る —————
	(賞 罰)
	なし

査読付原著論文 (WOS “Article”)

1. Tsuchiyama, A., H. Yamaguchi, M. Ogawa, A. M. Nakamura, T. Michikami, K. Uesugi (2025) Abrasion experiments of mineral, rock, and meteorite particles: simulating regolith particles abrasion on airless bodies. *Icarus* 429, 116432, 18pp.
2. Kiuchi, M., T. Okamoto, Y. Nagaashi, Y. Yamaguchi, S. Hasegawa, A. M. Nakamura (2023) Impact experiments on granular materials under low gravity: Effects of cohesive strength, internal friction, and porosity of particle layers on crater size. *Icarus* 404, 115685, 11pp.
3. Kadono, T., A. M. Nakamura, R. Suetsugu, D. Chang, S. Shiramizu, I. Takatsu, K. Ogawa, K. Nomura, Y. Nagaashi, Y. Murakami, Y. Yamasaki, J. Shiimoto, T. Okamoto, S. Tanaka, S., N. Kawai (2023) Experimental investigation of impact close to the edge of boulders. *Planet. Space Sci.* 236, 105763, 7pp.
4. Libourel, G., P. Beck, A. M. Nakamura, P. Vernazza, C. Ganino, P. Michel (2023) V-type asteroids as the origin of mesosiderites. *Planet. Sci. J.* 4, 123, 12pp.
5. Zorzano, M.-P., K. Olsson-Francis, P. T. Doran, P. Rettberg, A. Coustenis, V. Ilyin, F. Raulin, O. Al Shehhi, F. Groen, O. Grasset, A. Nakamura, O. P. Ballesteros, S. Sinibaldi, Y. Suzuki, P. Kumar, G. Kminek, N. Hedman, M. Fujimoto, M. Zaitsev, A. Hayes, J. Peng, E. Ammannito, C. Mustin, K. Xu (2023) The COSPAR planetary protection requirements for space missions to Venus. *Life Sciences in Space Research* 37, 18–24.
6. Nagaashi, Y., A. M. Nakamura (2023) High mobility of asteroid particles revealed by measured cohesive force of meteorite fragments. *Science Advances* 9, eadd3530, 9pp.
7. Hasegawa, S., F. E. DeMeo, M. Marsset, J. Hanuš, C. Avdellidou, M. Delbo, S. J. Bus, H. Hanayama, T. Horiuchi, D. Takir, E. Jehin, M. Ferrais, J. Geem, M. Im, J. Seo, Y. P. Bach, S. Jin, M. Ishiguro, D. Kuroda, R. P. Binzel, A. M. Nakamura, B. Yang, P. Vernazza (2022) Spectral evolution of dark asteroid surfaces induced by space weathering over a decade. *Astrophys. J. Lett.* 939, L9, 12pp.
8. Michel, P., M. Küppers, A. C. Bagatin, B. Carry, S. Charnoz, J. De Leon, A. Fitzsimmons, P. Gordo, S. F. Green, A. Hérique, M. Juzi, Ö. Karatekin, T. Kohout, M. Lazzarin, N. Murdoch, T. Okada, E. Palomba, P. Pravec, C. Snodgrass, P. Tortora, K. Tsiganis, S. Ulamec, J.-B. Vincent, K. Wünnemann, Y. Zhang, S. D. Raducan, E. Dotto, N. Chabot, A. F. Cheng, A. Rivkin, O. Barnouin, C. Ernst, A. Stickle, D. C. Richardson, C. Thomas, M. Arakawa, H. Miyamoto, A. Nakamura, S. Sugita, M. Yoshikawa, P. Abell, E. Asphaug, R.-L. Ballouz, W. F. Bottke, D. S. Loretta, K. J. Walsh, P. Martino, I. Carnelli (2022) The ESA Hera mission: detailed characterization of the DART impact outcome and of the binary asteroid (65803) Didymos. *Planet. Sci. J.* 3, 160, 21pp.
9. Hirata, N., R. Morishima, K. Ohtsuki, A. M. Nakamura (2022) Disruption of Saturn's ring particles by thermal stress. *Icarus* 378, 114919, 12pp.
10. Hasegawa, S., M. Marsset, F. E. DeMeo, S. J. Bus, M. Ishiguro, D. Kuroda, R. P. Binzel, J. Hanus, A. M. Nakamura, B. Yang, and P. Vernazza (2022) The appearance of a "fresh" surface on 596 Scheila as a consequence of the 2010 impact event. *Astrophys. J. Lett.* 924, L9, 7pp.
11. Miyamoto, H., T. Niihara, K. Wada, K. Ogawa, H. Senshu, P. Michel, H. Kikuchi, R. Hemmi, T. Nakamura, A. M. Nakamura, N. Hirata, S. Sasaki, E. Asphaug, D. T. Britt, P. A. Abell, R.-L. Ballouz, O. S. Barnouin, N. Barsei, M. A. Barucci, J. Biele, M. Grott, H. Hino, P. K. Hong, T. Imada, S. Kameda, M. Kobayashi, G. Libourel, K. Mogi, N. Murdoch, Y. Nishio, S. Okamoto, Y. Ota, M. Otsuki, K. A. Otto, N. Sakaani, Y. Shimizu, T. Takemura, N. Terada, M. Tsukamoto, T. Usui, K. Willner (2021) Surface environment of Phobos and Phobos simulant UTPS. *Earth, Planets & Space* 73, 214, 17pp.

12. Ogawa, R., A. M. Nakamura, A. Suzuki, S. Hasegawa (2021) Crater shape as a possible record of the impact environment of metallic bodies: Effects of temperature, impact velocity and impactor density. *Icarus* 362, 114410, 14pp.
13. Nagaashi, Y., T. Aoki, A. M. Nakamura (2021) Cohesion of regolith: Measurements of meteorite powders. *Icarus* 360, 114357, 12pp.
14. Nagaashi, Y., A. M. Nakamura, S. Hasegawa, K. Wada (2021) Packing fraction of clusters formed in free-falling granular streams based on flash x-ray. *Physical Rev. E*. 103, 032903, 6pp.
15. Omura, T., A. M. Nakamura (2021) Primordial porous structure of chondrite parent bodies due to self-gravity. *Planet. Sci. J.* 2, 41, 12pp.
16. Suzuki, A. I., Y. Fujita, S. Harada, M. Kiuchi, Y. Koumoto, E. Matsumoto, T. Omura, S. Shigaki, E. Taguchi, S. Tsujido, K. Kurosawa, S. Hasegawa, T. Hirai, M. Tabata, H. Tamura, T. Kadono, A. M. Nakamura, M. Arakawa, S. Sugita, K. Ishibashi (2021) Experimental study concerning the oblique impact of low- and high-density projectiles on sedimentary rocks. *Planet. Space Sci.* 195, 105141, 12pp.
17. Remington, T. P., J. M. Owen, A. M. Nakamura, P. L. Miller, M. Bruck Syal (2020) Numerical simulations of laboratory-scale hypervelocity-impact experiments for asteroid deflection code validation. *Earth and Space Science* 7, e2018EA000474, 10pp.
18. Murakami, Y., A. M. Nakamura, K. Yokoyama, Y. Seto, S. Hasegawa (2020) Collisional disruption of highly porous targets in the strength regime: Effects of mixture. *Planet. Space Sci.* 182, 104819, 13pp.
19. Ganino, C., G. Libourel, A. M. Nakamura, P. Michel (2019) Are hypervelocity impacts able to produce chondrule-like ejecta? *Planet. Space Sci.*, 177, 104684, 9pp.
20. Libourel, G., A. M. Nakamura, P. Beck, S. Potin, C. Ganino, S. Jacomet, R. Ogawa, S. Hasegawa, P. Michel (2019) Hypervelocity impacts as a source of deceiving surface signatures on iron-rich asteroids. *Science Advances* 5, eaav3971, 11pp.
21. Kiuchi, M., A. M. Nakamura, K. Wada (2019) Experimental study on gravitational and atmospheric effects on crater size formed by low-velocity impacts into granular media. *J. Geophys. Res: Planets* 124, 1379–1392.
22. Nagaashi, Y., T. Omura, M. Kiuchi, A. M. Nakamura, K. Wada, S. Hasegawa (2018) Laboratory experiments on agglomeration of particles in a granular stream. *PEPS* 5, 52, 14pp.
23. Omura, T., A. M. Nakamura (2018) Estimating the porosity structure of granular bodies using the Lane-Emden equation applied to laboratory measurements of the pressure-density relation of fluffy granular samples. *Astrophys. J.* 860, 123, 7pp.
24. Ganino, C., G. Libourel, A. Nakamura, O. Tottereau, S. Jacomet, P. Michel, P. (2018) Impact-induced chemical fractionation as inferred from hypervelocity impact experiments with silicate projectiles and metallic targets. *Meteoritics & Planet. Sci.* 53, 2306–2326.
25. Omura, T., A. M. Nakamura (2018) Experimental study on compression property of regolith analogues. *Planet. Space Sci.* 149, 14–22.
26. Nakamura, A. M. (2017) Impact cratering on porous targets in the strength regime. *Planet. Space Sci.* 149, 5–13.
27. Okamoto, T., A. M. Nakamura (2017) Scaling of impact-generated cavity-size for highly porous targets and its application to cometary surfaces. *Icarus* 292, 234–244.
28. Kim, Y., M. Ishiguro, T. Michikami, A. M. Nakamura (2017) Anisotropic ejection from active asteroid P/2010 A2: An implication of impact shattering on an asteroid. *Astron. J.* 153, 228, 11 pp.

29. Suzuki, A. I., A. M. Nakamura, T. Kadono, K. Wada, S. Yamamoto, M. Arakawa (2013) A formation mechanism for concentric ridges in ejecta surrounding impact craters in a layer of fine glass beads. *Icarus* 225, 298–307.
30. Okamoto, T., A. M. Nakamura, S. Hasegawa, K. Kurosawa, K. Ikezaki, A. Tsuchiyama (2013) Impact experiments of exotic dust grain capture by highly porous primitive bodies. *Icarus* 224, 209–217.
31. Nakamura, A. M., M. Setoh, K. Wada, Y. Yamashita, K. Sangen (2013) Impact and intrusion experiments on the deceleration of low-velocity impactors by small-body regolith. *Icarus* 223, 222–233.
32. Ishiguro, M., H. Hanayama, S. Hasegawa, Y. Sarugaku, J. –I. Watanabe, H. Fujiwara, H. Terada, H. Hsieh, J. J. Vaubaillon, N. Kawai, K. Yanagisawa, D. Kuroda, T. Miyaji, H. Fukushima, K. Ohta, H. Hamanowa, J. Kim, J. Pyo, A. M. Nakamura (2011) Interpretation of (596) Scheila's triple dust tails. *Astrophys. J. Lett.* 741, L24, 5pp.
33. Ishiguro, M., H. Hanayama, S. Hasegawa, Y. Sarugaku, J. –I. Watanabe, H. Fujiwara, H. Terada, H. Hsieh, J. J. Vaubaillon, N. Kawai, K. Yanagisawa, D. Kuroda, T. Miyaji, H. Fukushima, K. Ohta, H. Hamanowa, J. Kim, J. Pyo, A. M. Nakamura (2011) Observational evidences for impact on the main-belt asteroid (596) Scheila. *Astrophys. J. Lett.* 740 L11, 5pp.
34. Takasawa, S., A. M. Nakamura, T. Kadono, M. Arakawa, K. Dohi, S. Ohno, Y. Seto, M. Maeda, K. Shigemori, Y. Hironaka, T. Sakaiya, S. Fujioka, T. Sano, K. Otani, T. Watari, K. Sangen, M. Setoh, N. Machii, T. Takeuchi (2011) Silicate dust size distribution from hypervelocity collisions: Implications for dust production in debris disks. *Astrophys. J. Lett.* 733, L39, 4pp.
35. Niimi, R., T. Kadono, T., M. Arakawa, M. Yasui, K. Dohi, A. M. Nakamura, Y. Iida, Y., A. Tsuchiyama (2011) In situ observation of penetration process in silica aerogel: deceleration mechanism of hard spherical projectiles. *Icarus* 211, 986–992.
36. Machii, N., A. M. Nakamura (2011) Experimental study on static and impact strength of sintered agglomerates. *Icarus* 211, 885–893.
37. Ishiguro, M., R. Nakamura, D. J. Tholen, N. Hirata, H. Demura, E. Nemoto, A. M. Nakamura, Y. Higuchi, A. Sogame, A. Yamamoto, K. Kitazato, Y. Yokota, T. Kubota, T. Hashimoto, J. Saito (2010) The Hayabusa spacecraft asteroid multi-band imaging camera (AMICA). *Icarus* 207, 714–731.
38. Kadono, T., T. Sakaiya, Y. Hironaka, K. Otani, T. Sano, T. Fujiwara, T. Mochiyama, K. Kurosawa, S. Sugita, Y. Sekine, W. Nishikanbara, T. Matsui, S. Ohno, A. Shiroshita, K. Miyanishi, N. Ozaki, R. Kodama, A. M. Nakamura, M. Arakawa, S. Fujioka, K. Shigemori (2010) Impact experiments with a new technique for acceleration of projectiles to velocities higher than Earth's escape velocity 11.2 km/s. *J. Geophys. Res.* 115, E04003, 9pp.
39. Michikami, T., A. M. Nakamura, N. Hirata (2010) The shape distribution of boulders on asteroid 25143 Itokawa: Comparison with fragments from impact experiments. *Icarus* 207, 277–284.
40. Setoh, M., A. M. Nakamura, P. Michel, K. Hiraoka, Y. Yamashita, S. Hasegawa, N. Onose, K. Okudaira, (2010) High and low-velocity impact experiments on porous sintered glass bead targets of different compressive strengths: Outcome sensitivity and scaling. *Icarus* 205, 702–711.
41. Jutzi, M., P. Michel, K. Hiraoka, A. M. Nakamura, W. Benz (2009) Numerical simulations of impacts involving porous bodies: II. Comparison with laboratory experiments. *Icarus* 201, 802–813.
42. Fujii, Y., A. M. Nakamura (2009) Compaction and Fragmentation of porous gypsum targets from low-velocity impacts. *Icarus* 201, 795–801.
43. Hirata, N., C. Honda, R. Nakamura, H. Miyamoto, S. Sasaki, H. Demura, A. M. Nakamura, T. Michikami, O. S. Barnouin-Jha, R. W. Gaskell, J. Saito (2009) A survey of possible impact structures

on 25143 Itokawa. *Icarus* 200, 486–502.

44. Hiraoka, K., M. Arakawa, M. Setoh, A. M. Nakamura (2008) Measurement of target compressive and tensile strength for application to impact cratering on ice-silicate mixtures. *J. Geophys. Res.* 113, E02013, 7 pp.
45. Miyamoto, H., H. Yano, D. J. Scheeres, S. Abe, O. Barnouin-Jha, A. F. Cheng, H. Demura, R. W. Gaskell, N. Hirata, M. Ishiguro, T. Michikami, A. M. Nakamura, R. Nakamura, J. Saito, S. Sasaki (2007) Regolith migration and sorting on asteroid Itokawa. *Science* 316, 1011–1014.
46. Nakamura, A. M., P. Michel, M. Setoh (2007) Weibull parameters of Yakuno basalt targets used in documented high-velocity impact experiments. *J. Geophys. Res.* 112, E02001, 7 pp.
47. Setoh, M., K. Hiraoka, A. M. Nakamura, N. Hirata, M. Arakawa (2007) Collisional disruption of porous sintered glass beads at low impact velocities. *Adv. Space Res.* 40, 252–257.
48. Hiraoka, K., M. Arakawa, K. Yoshikawa, A. M. Nakamura (2007) Laboratory experiments of crater formation on ice-silicate mixture targets. *Adv. Space Res.* 39, 392–399.
49. Setoh, M., A. M. Nakamura, N. Hirata, K. Hiraoka, M. Arakawa (2007) Collisional disruption of weakly sintered porous targets at low impact velocities. *Earth, Planets & Space* 59, 319–324.
50. Ishiguro, M., T. Hiroi, D. J. Tholen, S. Sasaki, Y. Ueda, T. Nimura, M. Abe, B. E. Clark, A. Yamamoto, F. Yoshida, R. Nakamura, N. Hirata, H. Miyamoto, Y. Yokota, T. Hashimoto, T. Kubota, A. M. Nakamura, R. W. Gaskell, J. Saito (2007) Global mapping of the degree of space weathering on asteroid 25143 Itokawa by Hayabusa/AMICA observations. *Meteoritics & Planet. Sci.* 42, 1791–1800.
51. Hirata, N., A. M. Nakamura (2006) Secondary craters of Tycho: Size-frequency distributions and estimated fragment size–velocity relationships. *J. Geophys. Res.* 111, E03005, 8 pp.
52. Fujiwara, A., J. Kawaguchi, D. K. Yeomans, M. Abe, T. Mukai, T. Okada, J. Saito, H. Yano, M. Yoshikawa, D. J. Scheeres, O. Barnouin-Jha, A. F. Cheng, H. Demura, R. W. Gaskell, N. Hirata, H. Ikeda, T. Kominato, H. Miyamoto, A. M. Nakamura, R. Nakamura, S. Sasaki, K. Uesugi (2006) The rubble-pile asteroid Itokawa as observed by Hayabusa, *Science* 312, 1330–1334.
53. Saito, J., H. Miyamoto, R. Nakamura, M. Ishiguro, T. Michikami, A. M. Nakamura, H. Demura, S. Sasaki, N. Hirata, C. Honda, A. Yamamoto, Y. Yokota, T. Fuse, F. Yoshida, D. J. Tholen, R. W. Gaskell, T. Hashimoto, T. Kubota, Y. Higuchi, T. Nakamura, P. Smith, K. Hiraoka, T. Honda, S. Kobayashi, M. Furuya, N. Matsumoto, E. Nemoto, A. Yukishita, K. Kitazato, B. Dermawan, A. Sogame, J. Terazono, C. Shinohara, H. Akiyama (2006) Detailed images of asteroid 25143 Itokawa from Hayabusa, *Science* 312, 1341–1344.
54. Cellino, A., F. Yoshida, E. Anderlocci, P. Bendjoya, M. Di Martino, M. Ishiguro, A. M. Nakamura, J. Saito (2005) A polarimetric study of asteroid 25143 Itokawa. *Icarus* 179, 297–303.
55. Sakai, T., A. M. Nakamura (2005) Quantification of porosity and surface roughness in laboratory measurements of the bidirectional reflectance of asteroid surface analogues, *Earth, Planets & Space* 57, 71–76.
56. Kamei, A., A. M. Nakamura (2002) Laboratory study of bidirectional reflectance of powdered surfaces: On the asymmetry parameter of asteroid photometric data. *Icarus* 156, 551–561.
57. Hudson, R. S., S. J. Ostro, R. F. Jurgens, K. D. Rosema, J. D. Giorgini, R. Winkler, R. Rose, D. Choate, R. A. Cormier, C. R. Franck, R. Frye, D. Howard, D. Kelley, R. Littlefair, M. A. Slade, A. M. Benner, M. L. Thomas, D. L. Mitchell, P. W. Chodas, D. K. Yeomans, D. J. Scheeres, P. Palmer, A. Zaitsev, Y. Koyama, A. Nakamura, A. W. Harris (2000) Radar observations and physical model of asteroid 6489 Golevka. *Icarus* 148, 37–51.
58. Yamamoto, S., A. M. Nakamura (2000) A new model of continuous dust production from the lunar

surface. *Astron. Astrophys.* 356, 1112–1118.

59. Ninomiya, K., T. Hashimoto, A. M. Nakamura, T. Mukai, M. Nakamura, M. Ogasawara, N. Yoshizawa, J. Ishida, Y. Mizushima, H. Hosoda, M. Takano (1999) Mars Imaging Camera (MIC) on board PLANET-B. *Acta Astronautica* 45, pp. 597–604.
60. Yamamoto, S., A. M. Nakamura (1997) Velocity measurements of impact ejecta from regolith targets. *Icarus* 128, 160–170.
61. Zaitsev, A. L., S. J. Ostro, S. P. Ignatov, D. K. Yeomans, A. G. Petrenko, D. Choate, O. K. Margorin, R. A. Cormier, V. V. Mardyshev, R. Winkler, O. N. Rghiga, R. F. Jurgens, V. A. Shubin, J. D. Giorgini, A. P. Krivtsov, K. D. Rosema, Y. F. Koluka, M. A. Slade, A. L. Gavrik, V. B. Andreev, D. V. Ivanov, P. S. Peshin, Y. Koyama, M. Yoshikawa, A. Nakamura (1997) Intercontinental bistatic radar observations of 6489 Golevka (1991 JX). *Planet. Space Sci.* 45, 771–778.
62. Nakamura, A., K. Sugiyama, A. Fujiwara (1992) Velocity and spin of fragments from impact disruptions: I. An experimental approach to a general law between mass and velocity. *Icarus* 100, 127–135.
63. Nakamura, A., A. Fujiwara (1991) Velocity distribution of fragments formed in simulated collisional disruption. *Icarus* 92, 132–146.

他 17 編

著書(分担執筆)・教材

1. Collins, G., K. Housen, M. Jutzi, A. M. Nakamura (2019) Planetary impact process in porous materials, in *Shock Phenomena in Granular and Porous Materials. Shock Wave and High Pressure Phenomena*, eds. Vogler, T., Fredenburg, A., (Springer, Cham), pp. 103–136.
2. Holsapple, K., I. Glibin, K. Housen, A. Nakamura, E. Ryan (2002) Asteroid impacts: Laboratory experiments and scaling laws. in *ASTEROIDS III*, eds. Bottke, W. F., et al., Univ. Arizona Press., pp. 443–462.

他 6 件

特許

1. Kawaguchi, J., A. Fujiwara, S. Sawai, M. Abe, A. Nakamura (1998) Sample Collector, United States Patent No. 5,768,940, Jun. 23.

国際会議での招待講演

1. Laboratory impact experiments: Ejection of dust. PERC Int'l Symposium on Dust & Parent Bodies 2021, online, February 8–10, 2021.
2. Craters on porous targets formed in the strength regime. The 9th meeting on Cosmic Dust, Sendai, August 15–19, 2016.
3. Production, ejection, and capture of dust by impact. Mini-Workshop on Solar System Primitive Object, Seoul National University, June 13–14, 2013.
4. Laboratory impact disruption experiments—Towards understanding the impact process of porous bodies. VII Workshop on Catastrophic Disruption in the Solar System, Alicante, Spain, June 26–29, 2007.

他 4 件