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 78. Nishimura, S., Okajima, S., Joshi, B.R., Higo, Y. and Tokoro, T. (2020), Volumetric behaviour of clays under freeze-thaw cycles in mesoscopically uniform element, *Géotechnique*, Published Online: July 03, 2020. <http://doi.org/10.1680/jgeot.20.P.047>
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1. Oka, F., Kodaka, T., Higo, Y. and Takyu, T. (2000), Triaxial compression test using rectangular clay specimens, Proceedings of the 13th KKNN Symposium on Civil Engineering, Taipei, Taiwan, December 7-8, pp.315-318.
2. Oka, F., Higo, Y. and Kimoto, S. (2001), Effect of dilatancy on strain localization of elasto-viscoplastic soil, Proceedings of The 5th International Seminar on Microstructure and Mechanical Properties of New Engineering Materials, May 27-31, 2001, Mie, Japan, Tokuda, M. and Xu, B. eds., Mie University Press, pp.57-62.
3. Oka, F., Higo, Y., and Jiang, M. (2001), A strain localization analysis using a strain gradient dependent porous elasto-viscoplastic soil, Proceedings of The 14th KKNN Symposium on Civil Engineering, November 5-7, 2001, Kyoto, Japan, pp.479-484.
4. Siribumrungwong, B., Oka, F., Kodaka, T., Kimoto, S. and Higo, Y. (2004), An elasto-viscoplastic finite element study of the effect of microstructure change on bearing capacity of clay, Proc. of the International Symposium on Lowland Technology, September 1-3, Bangkok, Thailand, pp.177-182.
5. Oka, F., Kimoto, S., Kim, Y.-S., Takada, N. and Higo, Y. (2005), A finite element analysis of the thermo-hydro-mechanically coupled problem of cohesive deposit using a thermo-elasto-viscoplastic model, Poromechanics – Biot – centennial, Proc. 3rd Biot Conference on Poromechanics, Norman, Oklahoma, USA, 24-27 May 2005, Abousleiman, Y.N., Cheng, A.H-D., Ulm, F-J. editors, Balkema, pp. 383-388.
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13. Yoshida, T., Higo, Y., Oka, F., Matsushima, Y. (2011), Visualization of microstructures of unsaturated Toyoura sand specimen during water retentivity test, the 24th KKCNN Symposium on Civil Engineering, Awaji, Hyogo, December 14-16, pp.393-396.
14. Lee, C.-W., Doi, T., Kinugawa, T., Higo, Y., Oka, F., Kimura, M. and Kimoto, S. (2011), Dynamic centrifuge modeling tests for the partially saturated embankments considering seepage flow, the 24th KKCNN Symposium on Civil Engineering, Awaji, Hyogo, December 14-16, pp.455-458.
15. Akaki, T., Oka, F., Kimoto, S., Higo, Y. and Iwai, H. (2012), Effect of permeability and dissociation rate on a chemo-thermo-mechanically coupled numerical analysis of hydrate-bearing sediment, Proceedings of the 25th KKCNN Symposium on Civil Engineering, Busan, Korea, October 22-24 2012, pp.351-355.
16. Higo, Y., Oka, F., Sato, T., Matsushima, Y. and Kimoto, S. (2012), Macroscopic and microscopic observations of strain localization in an unsaturated sand under triaxial conditions using μ X-ray CT and DIC image analysis, Proceedings of the 25th KKCNN Symposium on Civil Engineering, Busan, Korea, October 22-24 2012, pp.415-418.
17. Goya, R., Higo, Y., Oka, F., Yoshida, T. and Kimoto, S. (2013), Visualization of grain crushing behaviour under one-dimensional compression conditions using a microfocus X-ray CT, Proceedings of the 26th KKCNN Symposium on Civil Engineering, Singapore, November 18-20 2013, paper No. G-1-8.
18. Ueda, J., Oka, F., Kimoto, S., Higo, Y. and Kanou, S. (2013), Cyclic torsional shear tests for sandy soil considering cyclic stress-amplitude history, Proceedings of the 26th KKCNN Symposium on Civil Engineering, Singapore, November 18-20 2013, paper No. G-6-1.
19. Higo, Y., Oka, F. and Nishimura, D. (2014), A coupled GIMP-FDM scheme for analyzing dynamic response of multiphase unsaturated soils, Proceedings of the 1st International Conference on Computational Engineering and Science for Safety and Environmental Problems, 13-16 April 2014, Sendai, Japan, pp.154-155.
20. Higo, Y., Lee, C.W., Doi, T., Kinugawa, T. and Oka, F. (2014), Earthquake-induced deformation of road embankments considering seepage flow, Proceedings of the Fifth International Conference on Science and Engineering, 29-30 December 2014, Yangon, Myanmar.

21. Oka, F., Higo, Y., Morishita, R. and Matsushima, Y. (2015), A microscopic observation of the behavior of partially saturated sand using microfocus X-ray CT with image analysis, Engineering Mechanics Institute Conference, June 16-19, 2015, Stanford, USA.
22. Kido, R. and Higo, Y. (2015), Relation between local porosity and degree of saturation of sand during drying and wetting process observed by micro x-ray tomography with trinarisation technique, Proceedings of the 28th KKHTCNN Symposium on Civil Engineering, Bangkok, Thailand, November 16-18, paper No. KU-GTE-02.
23. Ishikawa, T., Yasuhara, H., Higo, Y. and Kishida, K. (2015), Permeability of a single fracture in granite under the confining pressure and extraction of fracture structure using microfocus X-ray CT, Proceedings of the 28th KKHTCNN Symposium on Civil Engineering, Bangkok, Thailand, November 16-18, paper No. KU-GTE-03.
24. Seki, T., Higo, Y., Hashimoto, R., Kitamura, A. Kato, R. and Kimura, M. (2015), Numerical study on dynamic behavior of reinforced soil wall using cylindrical wire net and chain, Proceedings of the 28th KKHTCNN Symposium on Civil Engineering, Bangkok, Thailand, November 16-18, paper No. KU-GTE-05.
25. 肥後陽介, 松尾大介, 竹内智昭, 音田慎一郎 (2016), Material Point Method を用いた水の流れ—土の変形連成解析法, 計算工学講演会論文集, Vol.21, A-5-5, 6 pages (DVD).
26. Higo, Y., Hamada, Y., Iwanaga, S., Hisaizumi, Y. and Kido, R. (2017), Imaging fine soil particles transportation through soil skeleton caused by seepage flow, 3rd International Conference on Tomography of Materials and Structures, Lund, Sweden, 26-30 June 2017, ICTMS2017-198.
27. Kido, R., Higo, Y., Takamura, F. (2017), Image processing to quantify microscopic curvature of pore water in partially saturated soil, 3rd International Conference on Tomography of Materials and Structures, Lund, Sweden, 26-30 June 2017, ICTMS2017-43.
28. Higo, Y., Uchiyama, D., Hirota, N. and Takeuchi, T. (2019), Numerical simulation of liquefaction-induced large deformation of river levee using Material Point Method, VI International Conference on Particle-Based Methods, Particles 2019, 28-30 October 2019, UPC, Barcelona, Spain, paper No. a151.

Awards

1. 国際会議若手優秀論文賞, 社団法人 地盤工学会, 2007年5月24日.
2. 研究奨励賞, 公益社団法人 地盤工学会, 2012年6月13日.
3. 論文賞 (英文), 公益社団法人 地盤工学会, 2016年6月8日.
4. 学術賞, 公益社団法人 地盤工学会関西支部, 2017年4月17日.

5. 関西支部長賞, 公益社団法人 材料学会関西支部, 2018年4月24日.
6. 事業企画賞, 公益社団法人 地盤工学会, 2018年6月6日

Patent

1. ピパットポンサーティラポン, 肥後陽介, 白石啓太, ファンクン, 圧力センサおよび圧力測定装置, 特願 2018-115467.

Book chapters

1. 新関西地盤－大阪平野から大阪湾－, 分担執筆 (I-7.3.2, I-7.4.2), KG-NET・関西圏地盤研究会, 2007
2. 新関西地盤－和歌山平野－, 分担執筆 (I-6.3.2-3, I-6.4.2, I-6.5, II-2.3.4-5), KG-NET・関西圏地盤研究会, 2011
3. 新関西地盤－滋賀平野－, 分担執筆 (2.2.3, 2.3.3), KG-NET・関西圏地盤研究会, 2014
4. 新関西地盤－奈良－, 分担執筆 (3), KG-NET・関西圏地盤研究会, 2018

Edited books

1. 15ARC proceedings, 2015.

Invited talks

1. Higo, Y., Observation of Menisci for Unsaturated Sands Using a Trinarization Technique of μ X-ray CT images, The 3rd International Workshop on X-ray CT Visualization for Socio-Cultural, Engineering, & Environmental Materials, X-Earth (IWX) 2012, 100 Years Anniversary Memorial Hall of The Faculty of Engineering, Kumamoto University, Kumamoto, JAPAN, 2012, 12.
2. Higo, Y., Visualization of grain crushing behaviour of decomposed granite soil using microfocus X-ray CT, The 4th International Workshop on X-ray CT Visualization for Socio-Cultural, Engineering, & Environmental Materials, X-Earth (IWX) 2013, 100 Years Anniversary Memorial Hall of The Faculty of Engineering, Kumamoto University, Kumamoto, JAPAN, 2013, 12.

3. 肥後陽介, 微視構造とマクロ挙動のリンクと土の変形量照査解析手法, 地盤工学とリスク共生Ⅱ－若手が考える地盤工学の姿－, 横浜国立大学, 2017年7月20日.
4. Higo, Y., Observations of micro-scale geometry changes of unsaturated soils to interpret phenomenological behaviors, International Workshop on Geomechanics from Micro to Macro: Trends and Challenges, the 2nd IROAST Symposium, June 11, 2018, Kumamoto, Japan.
5. 肥後陽介, 不飽和土せん断帯内部の微視的挙動解明とマクロ応答の解釈, 応用力学講演会 2018, 2018年12月5日.
6. 肥後陽介, 地盤の破壊現象の解明－マイクロからマクロへ, (公社)地盤工学会北陸支部 地盤工学講演会, 2019年9月11日.
7. 肥後陽介, 地震時・洪水時の河川堤防の数値解析手法－ロバスト性評価手法の構築へ, (株)建設技術研究所 講演会, 2019年11月27日.

Other presentations

1. Oka, F., Jiang, M. and Higo, Y. (2000), Effects of material inhomogeneity and transport of pore water on strain localization analysis of fluid-saturated strain gradient viscoplastic geomaterial, Proceedings of 8th International Symposium on Plasticity and Current Applications, Whistler, Canada, July 16-20, 2000, Khan, A.S., Zhang, H. and Yuan, Y. eds., Neat Press, pp.306-308.
2. Oka, F., Higo, Y., Kim, Y.-S., Imura, Y. and Kimoto, S. (2004), Thermo-hydro-mechanically coupled finite element analysis of cohesive soil using an elasto-viscoplastic model, Computational Mechanics (Abstracts), WCCM VI in conjunction with APCOM'04, September 5-10, 2004, Beijing, China, Tsinghua University Press & Springer-Verlag, p.266.
3. Higo, Y., Lateral Flows of Coastal Ground in Kobe due to Liquefaction under Inter-Plate Type Seismic Loading, The Safety of Built Environments Focusing on Seattle & Kobe, Proc. KU-UW International Symposium #4 on Design Strategy towards Safety and Symposium of Urban Space, September 30, 2006, Kobe, pp.80-83.
4. 肥後陽介, 神戸地盤における東南海・南海地震時の液状化解析, 第1回震災対策セミナー, 「神戸の地盤・減災研究会」研究成果報告会, 神戸, 2007, 1.
5. Higo, Y., Numerical Analysis of Lateral Flow of Coastal Ground due to Liquefaction during Inter-plate type Earthquake, 1st Kansai-Seoul Seminar on Geotechnical Engineering, Kyoto, Japan, Jan. 27, 2008.
6. 肥後陽介, 東大阪における長周期地震時の1次元非線形動的解析(長周期応答 WG 活動報告), 地震防災フォーラム'07, 来るべき南海・東南海地震に備えて(5), 南海・東南海地震が巨大地震になる可能性について, 主催: 関西地震観測研究協議会, 大阪, 2008, 1.

7. 肥後陽介, 澤田純男, 香川敬生, 大西良広, 長周期地震時における東大阪軟弱地盤の非線形動的解析, 京都大学防災研究所研究集会, 「巨大地震による長周期地震動と構造物の耐震性」, 京都, 2008, 1.
8. Higo, Y., Oka, F., Nakano, M., Mukai, H., Izumitani, T., Takeda, S., Amano, K. and Nagaya, J., Excavation Analysis of Nakanoshima Soft Clay Deposit Using an Elasto-viscoplastic Model, The 2nd Kansai-Seoul Geotechnical Engineering Conference, Seoul, Korea, Jan. 25-26, 2008.
9. Oka, F., Kimoto, S., Higo, Y., Ohta, H. and Sanagawa, T. (2008), An elasto-viscoplastic model for diatomaceous mudstone and numerical simulation of compaction bands, 8th International Workshop on Bifurcations and Degradations in Geomaterials, 8th IWBDG 2008, May 28-31, 2008 Lake Louise, Alberta, Canada.
10. Higo, Y., Visualization of Strain Localization and Microstructure in Geomaterials using Microfocus X-ray CT, Kick Off Symposium of X-Earth Center, Kumamoto, 2008, 11.
11. Higo, Y., Oka, F., Kimoto, S., Goto, Y., Morinaka, Y. and Chen, Z. (2010), A multi-phase analysis of unsaturated elasto-plastic soils by an MPM-FDM coupled method, Proceedings of the 9th World Congress on Computational Mechanics and 4th Asian Pacific Congress on Computational Mechanics, WCCM/APCOM 2010, Sydney, Australia, July 19-23, 2010, pp. 180-181.
12. Higo, Y., Study on strain localization of multi-phase granular soils using microfocus X-ray CT, The 1st International Workshop on X-ray CT Visualization for Socio-Cultural, Engineering, & Environmental Materials, X-Earth (IWX) 2010, 100 Years Anniversary Memorial Hall of The Faculty of Engineering, Kumamoto University, Kumamoto, JAPAN, 2010, 11.
13. Higo, Y., Oka, F., Sato, T., Matsushima, Y. and Kimoto, S. (2012), Observation of localized deformation in partially saturated sand by microfocus X-ray CT and DIC image analysis, the 23rd International Congress of Theoretical and Applied Mechanics (ICTAM2012) of the International Union of Theoretical and Applied Mechanics (IUTAM), Beijing, China, August 19-24, 2012, paper No. SM06-14 (DVD-ROM).
14. 肥後陽介, 由良川の堤防被害に関する調査報告, 平成 25 年台風 18 号京都・滋賀水害調査速報会, 公益社団法人土木学会水工学委員会, 平成 25 年 11 月 6 日, 京都, 2013, 11.
15. Higo, Y., Local degree of saturation in unsaturated sand during drying and wetting processes, TC105 公開セミナー, 東京, 2015 年 3 月.
16. Higo, Y., Strain localisation in partially saturated triaxial specimen studied by micro x-ray tomography with image analyses, 筑波大学セミナー, 2015 年 3 月.
17. Higo, Y., Kido, R. and Fukushima, Y. (2018), Microscopic investigation on morphological evolution of pore water in partially saturated sands during triaxial compression, IS Atlanta, Geo - Mechanics from Micro to Macro in Research and Practice, Georgia Tech, September 9-12, 2018.
18. University of Leeds-Kyoto University Joint Workshop, 2018 年 9 月.

Reports

1. 神戸の地盤・減災研究会, 研究成果報告書, 第二編 東南海・南海地震における神戸市地域地盤の液状化災害に関する研究, 3.4 LIQCA2D による液状化解析, 2007, pp.108-122.
2. 岡二三生, 木村亮, 木元小百合, 肥後陽介 (2012), 道路政策の質の向上に資する技術研究開発, 成果報告レポート, No.21-4, 「水分履歴を考慮した不飽和道路盛土の耐震性の評価法と強化法」, 新道路技術会議.

Competitive research funds: KAKENHI (principal investigator)

1. 科研費, 若手研究 (B), 平成 20~21 年度, 研究代表者: 肥後陽介, 研究科題: 「マイクロ X 線 CT による不飽和ベントナイト膨潤過程の可視化と弾粘塑性モデル化」, 研究費: 4,290 千円
2. 科研費, 若手研究 (B), 平成 24~25 年度, 研究代表者: 肥後陽介, 研究課題: 「粒子法による地震時および越流時の堤防の安定性評価解析手法の構築」, 研究費: 4,290 千円
3. 科研費, 基盤研究 (B), 平成 26~28 年度, 研究代表者: 肥後陽介, 研究分担者: 木元小百合, 研究課題: 「細粒分の流出による土の微視的な構造変化とマクロな材料劣化メカニズムの解明」, 研究費: 8,520 千円
4. 科研費, 基盤研究 (A), 平成 29~32 年度, 研究代表者: 肥後陽介, 研究分担者: 音田慎一郎, 大竹雄, 高野大樹, 研究課題: 「性能設計を志向した洪水・地震に対する河川堤防のロバスト性評価手法の構築」, 研究費: 39,130 千円
5. 科研費, 挑戦的研究 (開拓), 2019~2022 年度, 研究代表者: 肥後陽介, 研究分担者: 松島亘志, 大竹雄, 研究課題: 「土のミクروسケール多相系組織形態変化のモデル化ー地盤変形予測技術の再構築へ」, 研究費: 25,870 千円
6. 科研費, 基盤研究 (A), 2020~2022 年度, 研究代表者: 肥後陽介, 研究分担者: 音田慎一郎, 大竹雄, 高野大樹, 研究課題: 「偶発的マルチハザードに対する河川堤防のロバスト性評価手法の実現」, 研究費: 46,020 千円

Competitive research funds: others (principal investigator)

1. (一財)近畿建設協会 建設技術に関する調査研究助成, 平成 24 年度, 研究代表者: 肥後陽介, 研究課題: 「浸透を考慮した不飽和盛土の長時間地震時の安定性の研究」, 研究費: 1,000 千円
2. (一財)近畿建設協会 建設技術に関する調査研究助成, 平成 27 年度, 研究代表者: 肥後陽介, 研究課題: 「浸透時の内部浸食による土の劣化メカニズムの解明」, 研究費: 1,000 千円
3. 高橋経済産業財団 研究助成, 平成 29~30 年度, 研究代表者: 肥後陽介, 研究課題「河川堤防の浸透破壊を引き起こす内部浸食による土の進行的劣化機構の解明」, 研究費: 2,000 千円
4. 新都市社会技術融合創造研究会 研究助成, 令和 2~4 年度, プロジェクトリーダー: 肥後陽介,

研究課題「「宙水」が道路盛土安定性に及ぼす影響の評価法と対策法の構築」, 研究費: 4,000 千円 (令和 2 年度)

Competitive research funds (except principal investigator)

1. 新道路技術会議, 道路政策の質の向上に資する技術研究開発, 研究課題: 「水分履歴を考慮した不飽和道路盛土の耐震性の評価法と強化法」, 研究代表者: 岡二三生, 研究分担者: 木村亮, 木元小百合, 肥後陽介, 平成 21~23 年度, 研究費: 25,600 千円
2. (独)石油天然ガス・金属鉱物資源機構(JOGMEC) メタンハイドレート開発促進事業に関する委託研究, 平成 22~23 年度, 研究課題: 「第 1 回海洋産出試験のための海底ボーリング調査で行う試験結果解析」, 研究代表者: 岡二三生, 研究分担者: 木元小百合, 肥後陽介, 研究費: 5,600 千円
3. (財)河川環境管理財団 研究助成, 平成 23~24 年度, 研究課題: 「物理探査と室内試験による堤防の内部構造の解明」研究代表者: 岡二三生, 研究分担者: 木元小百合, 肥後陽介, 山田茂治, 研究費: 7,000 千円
4. 科研費, 基盤研究 (C), 平成 24~26 年度, 研究代表者: 岡二三生, 研究分担者: 肥後陽介, 木元小百合, 研究課題: 「大地震時における軟弱粘性土地盤上の河川堤防の変形—破壊メカニズムとその強化法」, 研究費: 5,330 千円
5. 科研費, 挑戦的研究 (萌芽), 平成 29~30 年度, 研究代表者: Pipatpongsa Thirapong, 研究分担者: 肥後陽介, 研究課題: 「Realizability of 3D geo-stress sensing device via electrical resistivity under contact pressure in granular media」, 研究費: 6,370 千円
6. 科研費, 挑戦的研究 (萌芽), 平成 29~30 年度, 研究代表者: 西村聡, 研究分担者: 肥後陽介, 所哲也, 研究課題: 「凍結・融解による土の不可逆変化メカニズム解明へ, ミクロ~メソ可視化からの突破口」, 研究費: 5,980 千円
7. 科研費, 基盤研究 (A), 2019~2023 年度, 研究代表者: 菊本統, 研究分担者: 肥後陽介, 海野寿康, 京川裕之, 松村聡, 橋本涼太, 研究課題: 「築造過程から長期供用を経て地震による変形・破壊まで, 盛土の一生を解く」, 研究費: 45,760 千円
8. 科研費, 基盤研究 (B), 2020~2022 年度, 研究代表者: Pipatpongsa Thirapong, 研究分担者: 肥後陽介, 木戸 隆之祐, 高橋 邦夫, 研究課題: 「Inventive concepts of 3D geo-stress sensing device using equivalent resistance of conductive particles subjected to contact pressures」, 研究費: 17,680 千円

Funded research (principal investigator)

1. 受託研究, 昭和機械商事株式会社, 平成 25 年度
2. 共同研究費, 前田建設工業株式会社, 平成 26 年度
3. 受託研究, 昭和機械商事株式会社, 平成 26 年度
4. 受託研究, 清水建設株式会社, 平成 27 年度
5. 受託研究, 清水建設株式会社, 平成 28 年度

6. 共同研究費, JFE スチール株式会社, 2019 年度

Society contributions 主な所属学会及び社会的活動等

Japan Society of Civil Engineers 公益社団法人 土木学会

- ・土木学会論文集 C 分冊編集小委員会
委員 (2015, 2016 年度), 幹事 (2017 年度), 幹事長 (2018 年度)
 - ・地盤工学委員会 堤防研究小委員会 委員 (2015~2018 年度)
 - ・応用力学委員会 応用力学論文集編集小委員会 委員 (2018 年度~現在)
- 他

Japan Geotechnical Society 公益財団法人 地盤工学会

- ・関西支部総務幹事主査 (2011~2013 年度)
 - ・Soils and Foundations, Editorial board (2013~2015 年度)
 - ・Soils and Foundations, Executive board (2016~2018 年度)
 - ・調査研究部 研究発表会委員会 委員長 (2017 年度)
 - ・総務部 委員 (2016~2018 年度)
 - ・Soils and Foundations, 将来構想特別委員会 委員 (2018 年度)
 - ・Soils and Foundations, FOA 化実施 WG 幹事 (2019 年度~現在)
- 他

The Society of Materials Science, Japan 公益社団法人 日本材料学会

- ・関西支部 常議員 (2015~2017 年度)
- ・編集委員会 調査委員 (2015 年度~現在)

The Japan Society for Computational Engineering and Science 一般社団法人 日本計算工学会