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Education

2003 Fil. Dr. in Theoretical Physics, University of Helsinki.
2000 Cand. Scient. (Master) in Physics, the Niels Bohr Institute, University of Copenhagen.
1997 B.Sc. in physics and mathematics, University of Copenhagen.

Positions

2016 - Professor, SDU, Denmark
2012 - 2016 Associate Professor, SDU, Denmark
2011 - 2012 Maitre assistant, Theoretical physics division, University of Geneva, Switzerland
2009 - 2011 CERN fellow, the theory unit at CERN, Switzerland.
2006 - 2009 Research assistant professor, University of Aarhus, Denmark.
2004 - 2006 Post-doctoral researcher, University of California, Davis, USA.
2003 - 2004 Post-doctoral researcher, the Helsinki Institute of Physics, Finland.
2000 - 2003 Research assistant, University of Helsinki, Finland.

Other affiliations

Associated Scientist, CERN

Awards and Grants

2016 Research project, Villum Fonden, DKK 3 mill. (€ 400.000.).
2011 Jr. Group Leader Fellowship grant from the Lundbeck Foundation, DKK 10 mill. (€ 1.3 mill.).
2010 and 2017 Awarded an honorable mention in the 2010 Gravity Research Foundation essay competition.
2009 Awarded CERN theory fellowship.
2000 Inter-Nordic Mobility scholarship from NorFA.
1998 Selected as official summer student at CERN

Research interests

Cosmology, astroparticle physics, physics beyond the standard model, quantum field theory, string theory.

Examples of Courses Taught

General relativity and cosmology (SDU)
Advanced topics in Fundamental Physics (SDU)
Advanced quantum mechanics (SDU)
Laboratoire de physique IV théorique (Geneva)
Quantum field theory in curved space with applications to cosmology (SDU & Aarhus)
Physics beyond the Standard Model (Aarhus)
Advanced inflation (Nordita)

Post-docs

2018 - Florian Niedermann
2014 - 2016 McCullen Sandora
2013 - 2016 Jonathan Ganc
2012 - 2016 Rajeev Kumar Jain
2007 - 2009 Troels Haugbølle (joint with Steen Hannestad)

Ph.D. Students

2016 - Andrea Palessandro
2012 - 2015 Ricardo Z. Ferreira
2006 - 2009 Philip Jarnhus (joint with Steen Hannestad)

Academic Commissions of Trust

Boards:

Editor of JCAP (Journal of Cosmology and Astroparticle Physics)
Head of Ph.D. program in physics
EU COST action network, managing committee member
Member of the Assistant/Associate Professor promotion committee
Member of the NORDITA gravity and cosmology post-doc selection committee

Grants:

Reviewer of ERC consolidator grants; Erwin Schroedinger-Fellowships, the Austrian national science foundation; Vidi-research proposals, the Netherlands Organisation for Scientific Research (Dutch Science Council); University Research Fellowships, The Royal Society in UK.

Journals:

Acting referee for JHEP (Journal of High Energy Physics), JCAP (Journal of Cosmology and Astro-particle Physics), PRD (Physical Review D), PRL (Physical Review Letters), Classical and Quantum Gravity, Astroparticle Physics, and MNRAS (Monthly News of Royal Astronomical Society).

Publikationer

Hot new early dark energy

Niedermann, F. & Sloth, M. S., 8. mar. 2022, I: Physical Review D. 105, 6, 35 s., 063509.

On the primordial correlation of gravitons with gauge fields

Jain, R. K., Sai, P. J. & Sloth, M. S., mar. 2022, I: Journal of Cosmology and Astroparticle Physics. 2022, 3, 054.

Cosmology intertwined III: $f\sigma_8$ and S_8

Di Valentino, E., Anchordoqui, L. A., Akarsu, Ö., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 72 flere, Colgáin, E., Cyr-Racine, F. Y., de Bernardis, P., de Cruz Pérez, J., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà Peracaula, J., van de Bruck, C., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J. M., Yadav, A. K. & Yang, W., sep. 2021, I: Astroparticle Physics. 131, 6 s., 102604.

Snowmass2021 - Letter of interest cosmology intertwined I: Perspectives for the next decade

Di Valentino, E., Anchordoqui, L. A., Akarsu, Ö., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 72 flere, Colgáin, E., Cyr-Racine, F. Y., de Bernardis, P., de Cruz Pérez, J., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà Peracaula, J., van de Bruck, C., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J. M., Yadav, A. K. & Yang, W., sep. 2021, I: Astroparticle Physics. 131, 102606.

Snowmass2021 - Letter of interest cosmology intertwined II: The hubble constant tension

Di Valentino, E., Anchordoqui, L. A., Akarsu, Ö., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S.,

Chen, A., Chluba, J., Chudaykin, A. & 73 flere, Colgáin, E., Cyr-Racine, F. Y., de Bernardis, P., de Cruz Pérez, J., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Guy, J., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà Peracaula, J., van de Bruck, C., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J. M., Yadav, A. K. & Yang, W., sep. 2021, I: *Astroparticle Physics*. 131, 102605.

Snowmass2021 - Letter of interest cosmology intertwined IV: The age of the universe and its curvature

Di Valentino, E., Anchordoqui, L. A., Akarsu, Ö., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 71 flere, Colgáin, E., Cyr-Racine, F. Y., de Bernardis, P., de Cruz Pérez, J., Delabrouille, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà Peracaula, J., van de Bruck, C., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J. M., Yadav, A. K. & Yang, W., sep. 2021, I: *Astroparticle Physics*. 131, 102607.

New early dark energy is compatible with current LSS data

Niedermann, F. & Sloth, M. S., 15. maj 2021, I: *Physical Review D*. 103, 10, 103537.

New Early Dark Energy

Niedermann, F. & Sloth, M. S., 15. feb. 2021, I: *Physical Review D*. 103, 4, 7 s., L041303.

Resolving the Hubble tension with new early dark energy

Niedermann, F. & Sloth, M. S., 15. sep. 2020, I: *Physical Review D*. 102, 6, 063527.

Cosmology Intertwined I: Perspectives for the Next Decade

Valentino, E. D., Anchordoqui, L. A., Akarsu, O., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 72 flere, Colgáin, E. Ó., Cyr-Racine, F-Y., Bernardis, P. D., Pérez, J. D. C., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà, J., Bruck, C. V. D., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J-M., Yadav, A. K. & Yang, W., 25. aug. 2020, I: *arxiv.org*. 8 s.

Cosmology Intertwined II: The Hubble Constant Tension

Valentino, E. D., Anchordoqui, L. A., Akarsu, O., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 73 flere, Colgáin, E. Ó., Cyr-Racine, F-Y., Bernardis, P. D., Pérez, J. D. C., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Guy, J., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà, J., Bruck, C. V. D., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J-M., Yadav, A. K. & Yang, W., 25. aug. 2020, I: *arxiv.org*. 21 s.

Cosmology Intertwined III: $f\sigma_8$ and S_8

Valentino, E. D., Anchordoqui, L. A., Akarsu, O., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 72 flere, Colgáin, E. Ó., Cyr-Racine, F.-Y., Bernardis, P. D., Pérez, J. D. C., Delabrouille, J., Dunkley, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà, J., Bruck, C. V. D., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J.-M., Yadav, A. K. & Yang, W., 25. aug. 2020, I: arxiv.org. 11 s.

Cosmology Intertwined IV: The Age of the Universe and its Curvature

Valentino, E. D., Anchordoqui, L. A., Akarsu, O., Ali-Haimoud, Y., Amendola, L., Arendse, N., Asgari, M., Ballardini, M., Basilakos, S., Battistelli, E., Benetti, M., Birrer, S., Bouchet, F. R., Bruni, M., Calabrese, E., Camarena, D., Capozziello, S., Chen, A., Chluba, J., Chudaykin, A. & 71 flere, Colgáin, E. Ó., Cyr-Racine, F.-Y., Bernardis, P. D., Pérez, J. D. C., Delabrouille, J., Escamilla-Rivera, C., Ferté, A., Finelli, F., Freedman, W., Frusciante, N., Giusarma, E., Gómez-Valent, A., Handley, W., Harrison, I., Hart, L., Heavens, A., Hildebrandt, H., Holz, D., Huterer, D., Ivanov, M. M., Joudaki, S., Kamionkowski, M., Karwal, T., Knox, L., Kumar, S., Lamagna, L., Lesgourgues, J., Lucca, M., Marra, V., Masi, S., Matarrese, S., Mazumdar, A., Melchiorri, A., Mena, O., Mersini-Houghton, L., Miranda, V., Moreno-Pulido, C., Mota, D. F., Muir, J., Mukherjee, A., Niedermann, F., Notari, A., Nunes, R. C., Pace, F., Paliathanasis, A., Palmese, A., Pan, S., Paoletti, D., Pettorino, V., Piacentini, F., Poulin, V., Raveri, M., Riess, A. G., Salzano, V., Saridakis, E. N., Sen, A. A., Shafieloo, A., Shajib, A. J., Silk, J., Silvestri, A., Sloth, M. S., Smith, T. L., Solà, J., Bruck, C. V. D., Verde, L., Visinelli, L., Wandelt, B. D., Wang, D., Wang, J.-M., Yadav, A. K. & Yang, W., 25. aug. 2020, I: arxiv.org. 8 s.

Inflation: Én oprindelse for alt?

Sloth, M. S., jun. 2020, I: Kvant - Tidsskrift for fysik og Astronomi. 2, s. 13-16

Gravitational Absorption Lines

Palessandro, A. & Sloth, M. S., 4. feb. 2020, I: Phys. Rev. D. 101, 4, 33 s., 043504.

Early cosmological evolution of primordial electromagnetic fields

Kobayash, T. & Sloth, M. S., 15. jul. 2019, I: Physical Review D. 100, 2, 16 s., 023524.

Gravitational atoms

Nielsen, N. G., Palessandro, A. & Sloth, M. S., 17. jun. 2019, I: Physical Review D. 99, 12, 123011.

Charged planckian interacting dark matter

Garny, M., Palessandro, A., Sandora, M. & Sloth, M. S., 8. jan. 2019, I: Journal of Cosmology and Astroparticle Physics. 2019, 1, 36 s., 021.

Asymptotic Symmetries and Patient Observers in de Sitter

Sloth, M. S., 2018, I: Bulgarian Journal of Physics. 45, 2, s. 114-125

Occam's razor dark matter: Planckian interacting massive particles

Sloth, M. S., 2018, *Proceedings of 53rd Rencontres de Moriond on Cosmology*. Auge, E., Dumarchez, J. & Tran Thanh Van, J. (red.). ARISF, s. 267-270

Patient observers and non-perturbative infrared dynamics in inflation

Ferreira, R. Z., Sandora, M. & Sloth, M. S., 2018, I: Journal of Cosmology and Astroparticle Physics. 2018, 2, 32 s., 055.

Theory and phenomenology of Planckian interacting massive particles as dark matter

Garny, M., Palessandro, A., Sandora, M. & Sloth, M. S., 2018, I: Journal of Cosmology and Astroparticle Physics. 2018, 2, 39 s., 027.

Asymptotic symmetries in de Sitter and inflationary spacetimes

Ferreira, R. J. Z., Sandora, M. & Sloth, M. S., 2017, I: Journal of Cosmology and Astroparticle Physics. 2017, 4, 35 s., 033.

Is patience a virtue? Cosmic censorship of infrared effects in de Sitter

Ferreira, R. Z., Sandora, M. & Sloth, M. S., 2017, I: International Journal of Modern Physics D. 26, 12, 6 s., 1743019.

Large Field Inflation and Gravitational Entropy

Kaloper, N., Kleban, M., Lawrence, A. & Sloth, M. S., 2016, I: Physical Review D. 93, 043510.

On the validity of the perturbative description of axions during inflation

Ferreira, R. J. Z., Ganc, J., Noreña, J. & Sloth, M. S., 2016, I: Journal of Cosmology and Astroparticle Physics. 2016, April, 21 s.

Planckian Interacting Massive Particles as Dark Matter

Garny, M., Sandora, M. & Sloth, M. S., 2016, I: Physical Review Letters. 116, 10, s. 101302-1-101302-6 101302.

Towards a Gravity Dual for the Large Scale Structure of the Universe

Kehagias, A., Riotto, A. & Sloth, M. S., 2016, I: Fortschritte der Physik. 64, 11-12, s. 881–895

Radiative Corrections from Heavy Fast-Roll Fields during Inflation

Jain, R. K., Sandora, M. & Sloth, M. S., 27. jan. 2015, I: JCAP. 2015, June, 35 s., 016.

Probing correlations of early magnetic fields using mu-distortion

Ganc, J. & Sloth, M. S., 23. apr. 2014, I: JCAP. August

Chaotic inflation with curvaton induced running

Sloth, M. S., 31. mar. 2014, I: Physical Review D. 8 s.

Inflationary Magnetogenesis without the Strong Coupling Problem II

J. Z. Ferreira, R., Kumar Jain, R. & Sloth, M. S., 21. mar. 2014, I: JCAP. 2014, June, 1403.5516 .

Constraints on Gauge Field Production during Inflation

Nurmi, S. & Sloth, M. S., 2014, I: JCAP. 2014

Universal constraints on axions from inflation

Ferreira, R. Z. & Sloth, M. S., 2014, I: Journal of High Energy Physics. 12, 22 s.

Inflationary magnetogenesis without the strong coupling problem

Ferreira, R. J. Z., Jain, R. K. & Sloth, M. S., okt. 2013, I: Journal of Cosmology and Astroparticle Physics. 10, 26 s., 004.

On the non-Gaussian correlation of the primordial curvature perturbation with vector fields

Kumar Jain, R. & Sloth, M. S., 2013, I: Journal of Cosmology and Astroparticle Physics. 2013, 2, 19 s., 003.

Consistency relation for cosmic magnetic fields

Jain, R. K. & Sloth, M. S., 2012, I: Physical Review D. 86, 12

Fluctuating geometries, q-observables, and infrared growth in inflationary spacetimes

B. Giddings, S. & Sloth, M. S., 2012, I: Physical Review D. 86, 083538.

Apparent faster than light propagation from light sterile neutrinos

Hannestad, S. & Sloth, M. S., 28. sep. 2011, I: Preprint.

The Kramers-Moyal Equation of the Cosmological Comoving Curvature Perturbation

Riotto, A. & Sloth, M. S., 30. mar. 2011, I: JCAP.

Strongly Scale-dependent Non-Gaussianity

Riotto, A. & Sloth, M. S., 15. feb. 2011, I: Physical Review D. 83, 4

Semiclassical relations and IR effects in de Sitter and slow-roll space-times

Giddings, S. B. & Sloth, M. S., jan. 2011, I: JCAP. 2011, 30 s., 023.

Cosmological observables, IR growth of fluctuations, and scale-dependent anisotropies

B. Giddings, S. & Sloth, M. S., 2011, I: Phys.Rev.D. 84, 6, 7 s., 063528.

Perturbation Theory of the Cosmological Log-Density Field

Wang, X., Neyrinck, M., Szapudi, I., Szalay, A., Chen, X., Lesgourgues, J., Riotto, A. & Sloth, M. S., 2011, I: Astrophysical Journal Supplement Series. 735, 32, 13 s.

Cosmological diagrammatic rules

B. Giddings, S. & Sloth, M. S., 18. maj 2010, I: JCAP.

On the Effective Equation of State of Dark Energy

Sloth, M. S., 18. maj 2010, I: Int.J.Mod.Phys.D.

Non-Gaussianity from Axion Monodromy Inflation

Hannestad, S., Haugboelle, T., R. Jarnhus, P. & Sloth, M. S., 2010, I: JCAP. 2010, 001, 15 s.

Inflationary trispectrum from graviton exchange

Seery, D., Sloth, M. S. & Vernizzi, F., 2009, I: Journal of Cosmology and Astroparticle Physics. 3, 0811.3934 .

Observing trans-Planckian ripples in the primordial power spectrum with future large scale structure probes

Hamann, J., Hannestad, S., Sloth, M. S. & Y. Y. Wong, Y., 2008, I: Journal of Cosmology and Astroparticle Physics. 9, 0807.4528 .

On Resumming Inflationary Perturbations beyond One-loop

Riotto, A. & Sloth, M. S., 2008, I: Journal of Cosmology and Astroparticle Physics. April

de Sitter limit of inflation and nonlinear perturbation theory

R. Jarnhus, P. & Sloth, M. S., 17. sep. 2007, I: JCAP.

The Matrix Reloaded - on the Dark Energy Seesaw

Enqvist, K., Hannestad, S. & Sloth, M. S., 22. feb. 2007, I: Phys.Rev.Lett..

On the One Loop Corrections to Inflation II: The Consistency Relation

Sloth, M. S., 14. dec. 2006, I: Nuclear Physics B.

The inflationary trispectrum

Seery, D., E. Lidsey, J. & Sloth, M. S., 6. okt. 2006, I: JCAP.

On the one loop corrections to inflation and the CMB anisotropies

Sloth, M. S., 24. apr. 2006, I: Nuclear Physics B.

How robust are inflation model and dark matter constraints from cosmological data?

Hamann, J., Hannestad, S., Sloth, M. S. & Y. Y. Wong, Y., 2006, I: Physical Review D. 75, 2, 9 s., 023522.

Suppressing Super-Horizon Curvature Perturbations?

Sloth, M. S., 27. jul. 2005, I: Mod.Phys.Lett. A.

Searching for a holographic connection between dark energy and the low l CMB multipoles

Enqvist, K., Hannestad, S. & Sloth, M. S., 14. feb. 2005, I: Journal of Cosmology and Astroparticle Physics. 02, 004

Possible Connection between the Location of the Cutoff in the Cosmic Microwave Background Spectrum and the Equation of State of Dark Energy

Enqvist, K. & Sloth, M. S., nov. 2004, I: Physical Review Letters. 93, 22, 221302.

Holography and Cosmological Perturbations

Keski-Vakkuri, E. & Sloth, M. S., 2004, I: Comment. Phys. Math. Soc. Sci. Fenn.. 166, s. 193-200 8 s.

Trans-Planckian effects in inflationary cosmology and the modified uncertainty principle

Hassan, S. F. & Sloth, M. S., 8. dec. 2003, I: Nuclear Physics B. 674, 1-2, s. 434-458

Holographic bounds on the UV cutoff scale in inflationary cosmology

Keski-Vakkuri, E. & Sloth, M. S., aug. 2003, I: JCAP. 2003, 001

Superhorizon curvaton amplitude in inflation and pre-big bang cosmology

Sloth, M. S., 21. apr. 2003, I: Nuclear Physics B. 656, 1-2, s. 239-251

Adiabatic CMB perturbations in pre-big bang string cosmology

Enqvist, K. & Sloth, M. S., 24. sep. 2001, I: Nuclear Physics B.

Presseklip

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20/03/2011

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'Seesaw' explains light dark-energy particles

Martin Snoager Sloth

31/07/2007

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Teaching Portfolio

Educational training: obligatory training course in professional pedagogical skills, Aarhus U. 2007-2008

Administrative tasks relating to education:

- Head of PhD program in Physics at FKF, SDU since 2012.
- Member of PhD committees at SDU and other European universities.
- Member of the Danish External Examiners Board in Physics.
- Organisation and design of courses at SDU.
- Initiated the astronomy specialisation at SDU
- Responsible for further education program in astronomy for high school teachers

Experience:

- Has taught a large number of courses from basic to highly specialised level.
- Supervised large a number of bachelor students, master students, PhD students and Post-doc researchers.

Courses taught:

Advanced quantum mechanics, general relativity and cosmology, advanced research topics in fundamental physics, introduction to astronomy, physics for biologists, advanced inflation, quantum field theory in curved space with applications to cosmology, physics beyond the standard model, laboratoire de physique IV thorique.