

Mads Toudal Frandsen  
Associate Head of Department, Associate Professor  
Department of Physics, Chemistry and Pharmacy  
CP3-Origins  
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**Phone:** 65504521  
**Fax:** 66158780

## Education

2009            PhD in Physics, Niels Bohr Institute  
2006            Master in Physics, Niels Bohr Institute & UC Santa Barbara  
2004            Bachelor in Mathematics and Physics, Niels Bohr Institute

## Employment

2012-present    Associate Professor, CP<sup>3</sup>-Origins, SDU  
2009-2012        Postdoctoral Research Associate, Oxford University

## Active Research grants

Villum Foundation Block Stipend (24 months post doc)

## Extended Research visits

2013            KITP Santa Barbara June-July (4 weeks)  
2011            CERN July-August (6 weeks)  
2007            CERN March-June (4 Months)

## Affiliations

2012-2014        Long-term visitor, Theoretical Physics Oxford  
2012-2014        ATLAS associated theorist, CERN

## Master Students

2015            Mette Lindharth Als Kristensen (Beyond the SM - LHC)  
2012            Karin Dissauer (Joint with F. Sannino)

## Bachelor Students

2015            Martin Rosenlyst Joergensen (Dark Matter - Thermal Relics and LHC detection)  
2015            Martin Berg Klenow (Higgs Physics - LHC detection)  
2015            Henrik K. B. Siboni (Dark Matter - Direct Detection)  
2015            Jonas Petersen (Dark Matter - Cluster Collisions)  
2014            Nicky Klindt Vølund (Dark Matter- Cluster Collisions)  
2014            Sofie Gregersen (Dark Matter- direct detection)  
2014            Kevin Grønbech (Dark Matter- Cluster Collisions)  
2013            Mette Lindharth Als Kristensen  
2013            Rasmus Rexbye Hansen

## Teaching

2014            First year Classical Mechanics FF502 (~250 students)  
2014            Second year Classical Mechanics FY504 (~30 students)  
2013            Responsible for 3 day SRP workshop at CP<sup>3</sup> (8 high school students)  
2013            First year Classical Mechanics FF502 (~250 students)  
2013            Second year Classical Mechanics FY504 (~30 students)  
2012            Second year Classical Mechanics FY504 (~30 students)  
2012            first year lab exercises FY502 (~250 students)  
2012            Nordita Master Class in Physics, Stockholm

## Honours and Awards

2015	Elected member of The Young Academy - The Royal Danish Academi of Sciences and Letters
2014	Villum Foundation Block Stipend (24 months post doc)
2012	Rutherford Fellowship (STFC) UK
2012	Sapere Aude Research Grant (~ 750.000 Dkr)
2012	FNU Post doc fellowship (2 years)
2010	Elected Junior Research Fellow Mansfield College Oxford (2 years)
2010	Lundbeck Foundation Talent Prize
2009	Villum Kann Rasmussen Post Doc Fellowship (2 years)
2009	Anglo-Danish Society Award, Danish Embassy London
2006	Loerup Honorary Graduate Award, Copenhagen
2005	Deans Honours, University of California Santa Barb

## Scientific duties and service

### Journals:

Referee for

JCAP (Journal of Cosmology and Astroparticle Physics)

PRD (Physical Review D)

CPC (Computer Physics Communications)

EPJ (European Physics Journal)

### Grants

Referee for FRIA 2013 call of the Fund for Scientific Research - FNRS, funding agency for scientific research in French-speaking Belgium

### Conferences:

Member of the Scientific Organizing Committee of Lattice Meets Experiment Workshop, Brookhaven 2013.

Organizer of Origin of Mass, SDU 2013

### Boards

Member of faggruppen for fysik under den bibliometriske forskningsindikator 2013-

Member of Instrumentcenter for dansk astrofysik (IDA) 2014 -

## In the media

### Sun's dark matter trap

Mads Toudal Frandsen

12/07/2010

1 Media contribution

### SPØRG EKSPERTEN

Mads Toudal Frandsen

20/05/2019

1 Media contribution

### Signaler fra rummet undrer

Mads Toudal Frandsen

04/07/2020

1 Media contribution

### Sex mellem menneske-arter og fundet af en berømt partikel: "10'erne var et stort årti for videnskaben"

Mads Toudal Frandsen

22/12/2019

1 Media contribution

### SDU-studerende skal sende satellitter over Arktis

Mads Toudal Frandsen

21/11/2020

1 Media contribution

**PRM / Nye, uforklarlige signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
03/07/2020  
1 Media contribution

**PRM / Nye, uforklarlige signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
03/07/2020  
1 Media contribution

**Podcast: 85 procent af vores univers består af mørkt stof, som vi ikke aner, hvad er**

Mads Toudal Frandsen  
22/08/2019  
1 Media contribution

**Paradigmeskift: Sådan kan vi også lede efter mørkt stof**

Mads Toudal Frandsen  
24/07/2015  
1 item of Media coverage

**Opdagelsen af sorte huller, som ville kunne trække din krop til spaghetti, udløser en Nobelpris**

Mads Toudal Frandsen  
06/10/2020  
1 Media contribution

**Nyt millionprojekt: SDU-studerendes satellitter skal være gymnasieelevers øjne over Arktis**

Mads Toudal Frandsen  
21/11/2020  
1 Media contribution

**Nyt millionprojekt: SDU-studerendes satellitter skal være gymnasieelevers øjne over Arktis**

Mads Toudal Frandsen  
21/11/2020  
1 Media contribution

**Nye, uforklarlige signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
03/07/2020  
1 Media contribution

**Nye, uforklarlige signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
03/07/2020  
1 Media contribution

**Nye, uforklarlige signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
04/07/2020  
1 Media contribution

**Nye, uforklarlige signaler fra rummet: Danske forskere undrer sig**

Mads Toudal Frandsen  
05/07/2020  
1 Media contribution

**Nobelprisen gik til opdagelsen af de glubske sorte huller**

Mads Toudal Frandsen  
07/10/2020  
1 Media contribution

**New light cast on dark matter...: We may be a step closer to fathoming one of particle physics' deepest mysteries**

Mads Toudal Frandsen  
26/05/2013  
1 Media contribution

**New light cast on dark matter...**

Mads Toudal Frandsen  
26/05/2013  
1 item of Media coverage

**Navnligt -i dag med Phillip, der har brugt sin gen-forskning til at skrive en krimi**

Mads Toudal Frandsen  
17/06/2016  
1 item of Media coverage

**Mystisk signal fra rummet**

Mads Toudal Frandsen  
04/07/2020  
1 Media contribution

**Mulig CERN-opdagelse kan føre til teori om alting**

Mads Toudal Frandsen  
03/04/2016  
1 item of Media coverage

**KVANTE KARINA ER EN AF DE MANGE OPFINDELSER FRA CP -ORIGINS, DER SKAL VÆKKE DE HELT UNGES INTERESSE FOR NATURVIDENSKABEN 3**

Mads Toudal Frandsen  
30/07/2018  
1 Media contribution

**Heart of darkness could explain sun mysteries**

Mads Toudal Frandsen  
04/07/2010  
1 item of Media coverage

**Heart of darkness could explain sun mysteries**

Mads Toudal Frandsen  
14/07/2010  
1 Media contribution

**Fra det største til det mindste**

Mads Toudal Frandsen  
30/07/2018  
1 Media contribution

**Fra det største til det mindste**

Mads Toudal Frandsen  
17/08/2018  
1 Media contribution

**Forskningens Døgn med bamsehospital og partikelkanon**

Mads Toudal Frandsen  
24/04/2019  
1 Media contribution

**Forskningens Døgn med bamsehospital og partikelkanon**

Mads Toudal Frandsen  
24/04/2019  
1 Media contribution

**Forskningens Døgn byder på bamsehospital, partikelkanon og Thomas Skov**

Mads Toudal Frandsen  
24/04/2019  
1 Media contribution

**Forskere undrer sig over signaler fra rummet: Hvad foregår der?**

Mads Toudal Frandsen  
03/07/2020  
1 Media contribution

**For lækker til (natur)love**

Mads Toudal Frandsen  
28/02/2014  
1 item of Media coverage

**Er universet mon asymmetrisk**

Mads Toudal Frandsen  
07/06/2011  
1 item of Media coverage

**Efter Higgs: Jagten på ny fysik: Den berømte Higgs-partikel er fundet, men fysikerne holder ikke op med at lede. Higgs-partiklen opfører sig nemlig ganske som forudsagt – og det er netop problemet. Der mangler stadig noget.**

Mads Toudal Frandsen  
29/03/2013  
1 Media contribution

**Efter Higgs: Jagten på ny fysik**

Mads Toudal Frandsen  
29/03/2013  
1 item of Media coverage

**DR1 TV Avisen 21.30**

Mads Toudal Frandsen  
03/05/2018  
1 Media contribution

**DR1 TV Avisen 18.30**

Mads Toudal Frandsen  
03/05/2018  
1 Media contribution

**dk4 fortæller om fadervor gennem 11 programmer**

Mads Toudal Frandsen  
30/01/2020  
1 Media contribution

**Det Globale Eventyr: Allerede på vej ud i verden som ph.d.**

Mads Toudal Frandsen  
01/01/2009  
1 Media contribution

**Det er lettere at få job, hvis man har en uddannelse indenfor de naturfaglige fag**

Mads Toudal Frandsen  
03/05/2018  
1 Media contribution

**Det er blevet mere populært at læse naturvidenskabelige fag**

Mads Toudal Frandsen  
04/05/2018  
1 Media contribution

**Dark Matter May Be Building Up Inside the Sun**

Mads Toudal Frandsen  
07/09/2010  
1 Media contribution

**Dark matter may be building up inside our own sun**

Mads Toudal Frandsen  
12/07/2010  
1 item of Media coverage

**Danmarks første astronaut i rummet: Andreas Mogensen skal sparke døren ind til naturvidenskaben for fynske unge**

Mads Toudal Frandsen  
01/12/2019  
1 Media contribution

**CERN's Higgs Discovery As Portal To New 'Technicolor' Physics**

Mads Toudal Frandsen  
19/11/2014  
1 item of Media coverage

**Astronomer opdager mystisk signal fra fjerne galakser**

Mads Toudal Frandsen  
02/07/2014  
1 item of Media coverage

**Astronomer opdager et mystisk signal fra fjerne galakser**

Mads Toudal Frandsen  
02/07/2014  
1 item of Media coverage

**Are CDMS and XENON both right about dark matter?**

Mads Toudal Frandsen  
25/04/2013  
1 item of Media coverage

**Are CDMS and XENON both right about dark matter?**

Mads Toudal Frandsen  
25/04/2013  
1 Media contribution

**Andreas Mogensen skal lokke fynske unge ind i nyt fritidstilbud**

Mads Toudal Frandsen

01/12/2019

1 Media contribution

**Andreas Mogensen skal lokke fynske unge ind i nyt fritidstilbud**

Mads Toudal Frandsen

17/12/2019

1 Media contribution

**13-årige Malak drømmer selv om at blive det – nu har hun mødt Danmarks første astronaut**

Mads Toudal Frandsen

17/12/2019

1 Media contribution

**13-årige Malak drømmer selv om at blive det - nu har hun mødt Danmarks første astronaut**

Mads Toudal Frandsen

17/12/2019

1 Media contribution

**13-årige Malak drømmer selv om at blive det - nu har hun mødt Danmarks første astronaut**

Mads Toudal Frandsen

17/12/2019

1 Media contribution

## **Publications**

**Higgs Boson Emerging from the Dark**

Cai, C., Zhang, H. H., Cacciapaglia, G., Rosenlyst, M. & Frandsen, M. T., 10. Jul 2020, In : Physical Review Letters. 125, 2, 021801.

**XENON1T solar axion and the Higgs boson emerging from the dark**

Cacciapaglia, G., Cai, C., Frandsen, M. T., Rosenlyst, M. & Zhang, H. H., 2020, In : Physical Review D.

**Large Higgs quartic coupling and (A)DM from extended Bosonic Technicolor**

Frandsen, M. T. & Huang, W-C., 4. Dec 2019, (Submitted) In : Physics Letters B: Particle Physics, Nuclear Physics and Cosmology.

**A Cusp-Core like challenge for Modified Newtonian Dynamics**

Eriksen, M. H., Frandsen, M. T. & From, M. H., 18. Jun 2019, (In preparation) In : Monthly Notices of the Royal Astronomical Society.

**Walking technicolor in light of Z' searches at the LHC**

Belyaev, A., Coupe, A., Frandsen, M., Olaiya, E. & Shepherd-Themistocleous, C., 1. Mar 2019, In : Physical Review D. 99, 5, 39 p., 055004.

**Baggrundsstøj**

Frandsen, M. T., 2019, In : Dansk Kirketidende. 2

**PISA-undersøgelser 1589-2018**

Frandsen, M. T., 2019, In : Dansk Kirketidende. 11

### **Tal og tale**

Frandsen, M. T., 2019, In : Dansk Kirketidende. 8

### **Usynlige**

Frandsen, M. T., 2019, In : Dansk Kirketidende. 5

### **Dark matter in (partially) composite Higgs models**

Alanne, T., Franzosi, D. B., Frandsen, M. T. & Rosenlyst, M., Dec 2018, In : Journal of High Energy Physics. 2018, 12, 88.

### **A Method for Discriminating Between Dark Matter Models and MOND Modified Inertia via Galactic Rotation Curves**

Petersen, J. & Frandsen, M. T., 9. Oct 2018, In : Monthly Notices of the Royal Astronomical Society.

### **Investigating Dark Matter and MOND Models with Galactic Rotation Curve Data**

Frandsen, M. T. & Petersen, J., 27. May 2018, In : Astronomy & Astrophysics.

### **Asymmetric dark matter, baryon asymmetry and lepton number violation**

Frandsen, M. T., Hagedorn, C., Huang, W. C., Molinaro, E. & Päs, H., 2018, In : Physics Letters, Section B: Nuclear, Elementary Particle and High-Energy Physics. 782, p. 387-394

### **Partially composite Higgs models: phenomenology and RG analysis**

Alanne, T., Buarque Franzosi, D., Frandsen, M. T., Kristensen, M. L. A., Meroni, A. & Rosenlyst, M., 2018, In : Journal of High Energy Physics. 2018, 1, 26 p., 51.

### **Symmetries and composite dynamics for the 750 GeV diphoton excess**

Franzosi, D. B. & Frandsen, M. T., 2018, (Accepted/In press) In : Physical Review D. 11 p.

### **Partially composite Goldstone Higgs boson**

Alanne, T., Franzosi, D. B. & Frandsen, M. T., 2017, In : Physical Review D. 96, 9, 7 p., 095012.

### **Asymmetric Dark Matter Models and the LHC Diphoton Excess**

Frandsen, M. T. & Shoemaker, I. M., 2016, In : Journal of Cosmology and Astroparticle Physics. 2016, May, 27 p., 064.

### **New or $\nu$ missing energy: Discriminating Dark Matter from Neutrino Interactions at the LHC**

Franzosi, D. B., Frandsen, M. T. & Shoemaker, I. M., 2016, In : Physical Review D. 93, 9, p. 095001-1-095001-10 095001.

### **Testing a dynamical origin of standard model fermion masses**

Alanne, T., Frandsen, M. T. & Franzosi, D. B., 2016, In : Physical Review D. 94, 7, p. 071703-1-071703-6 071703(R).

### **Vector and Axial-vector resonances in composite models of the Higgs boson**

Franzosi, D. B., Cacciapaglia, G., Cai, H., Deandrea, A. & Frandsen, M., 2016, In : The Journal of High Energy Physics (Online). 2016, 76, 42 p.

### **Diboson Signals via Fermi Scale Spin-One States**

Franzosi, D. B., Frandsen, M. T. & Sannino, F., 8. Dec 2015, In : Physical Review D. 92, 115005.

### **Unitarity implications of diboson resonance in the TeV region for Higgs physics**

Cacciapaglia, G. & Frandsen, M. T., 29. Sep 2015, In : Physical Review D.

### **Custodial vector model**

Becciolini, D., Franzosi, D. B., Foadi, R., Frandsen, M. T., Hapola, T. & Sannino, F., 2015, In : Physical Review D. 92, 22 p., 015013.



**Direct Detection Phenomenology in Models Where the Products of Dark Matter Annihilation Interact with Nuclei**  
Cherry, J. F., Frandsen, M. T. & Shoemaker, I. M., 2015, In : Physical Review Letters. 114, 23, 6 p., 231303.

**X-ray lines from dark matter: the good, the bad, and the unlikely**

Frandsen, M., Sannino, F., M. Shoemaker, I. & Svendsen, O., 23. May 2014, In : JCAP. 5, 5, 033.

**LUX Constraints on Magnetic Dark Matter in the  $\bar{E} \chi$  Model with(out) Naturality**

T. Frandsen, M., Sannino, F., M. Shoemaker, I. & Svendsen, O., 6. Mar 2014, In : Physical Review D. 89, 055004.

**Colliding clusters and dark matter self-interactions**

Kahlhoefer, F., Schmidt-Hoberg, K., Frandsen, M. T. & Sarkar, S., 2014, In : Royal Astronomical Society. Monthly Notices. 437, 3, p. 2865-2881

**Halo-independent direct detection of momentum-dependent dark matter**

Cherry, J. F., Frandsen, M. T. & Shoemaker, I. M., 2014, In : Journal of Cosmology and Astroparticle Physics. 10, 19 p., 022.

**Technicolor Higgs boson in the light of LHC data**

Belyaev, A., S. Brown, M., Foadi, R. & Frandsen, M. T., 2014, In : Physical Review D. 90, 3, 035012.

**Up-shot of inelastic down-scattering at CDMS-Si**

Frandsen, M. T. & M. Shoemaker, I., 2014, In : Physical Review D. 89, 5, 5 p., 051701.

**125 GeV Higgs boson from a not so light technicolor scalar**

Foadi, R., Frandsen, M. T. & Sannino, F., 2013, In : Physical Review D. 87, 9, 7 p., 095001.

**The unbearable lightness of being: CDMS versus XENON**

Frandsen, M. T., Kahlhoefer, F., McCabe, C., Sarkar, S. & Schmidt-Hoberg, K., 2013, In : Journal of Cosmology and Astroparticle Physics. 2013, 023.

**Perturbative extension of the standard model with a 125 GeV Higgs and Magnetic Dark Matter**

Dissauer, K., Frandsen, M. T., Hapola, T. & Sannino, F., 21. Nov 2012, In : Physical Review D.

**Discovering a Light Scalar or Pseudoscalar at The Large Hadron Collider**

Frandsen, M. T. & Sannino, F., 18. Mar 2012, In : Physical Review D.

**LHC and Tevatron bounds on the dark matter direct detection cross-section for vector mediators**

Frandsen, M. T., Kahlhoefer, F., Preston, A., Sarkar, S. & Schmidt-Hoberg, K., 2012, In : Journal of High Energy Physics (Online). 2012, p. 123 25 p.

**Light Higgs from Scalar See-Saw in Technicolor**

Foadi, R. & Frandsen, M. T., 2012, In : Journal of High Energy Physics (JHEP).

**Loop-induced dark matter direct detection signals from gamma-ray lines**

Frandsen, M. T., Haisch, U., Kahlhoefer, F., Mertsch, P. & Schmidt-Hoberg, K., 2012, In : Journal of Cosmology and Astroparticle Physics. 10, p. 033

**Resolving astrophysical uncertainties in dark matter direct detection**

Frandsen, M. T., Kahlhoefer, F., McCabe, C., Sarkar, S. & Schmidt-Hoberg, K., 2012, In : Journal of Cosmology and Astroparticle Physics. January 2012, 024.

**Boosted objects: a probe of beyond the standard model physics**

Abdesselam, A., Belyaev, A., Kuutmann, E. B., Bitenc, U., Brooijmans, G., Butterworth, J., de Renstrom, P. B., Franzosi, D. B., Buckingham, R., Chapleau, B., Dasgupta, M., Davison, A., Dolen, J., Ellis, S., Fassi, F., Ferrando, J., Frandsen, M.

T., Frost, J., Gadfort, T., Glover, N. & 44 others, Haas, A., Halkiadakis, E., Hamilton, K., Hays, C., Hill, C., Jackson, J., Issever, C., Karagoz, M., Katz, A., Kreczko, L., Krohn, D., Lewis, A., Livermore, S., Loch, P., Maksimovic, P., March-Russell, J., Martin, A., McCubbin, N., Newbold, D., Ott, J., Perez, G., Policchio, A., Rappoccio, S., Raklev, A. R., Richardson, P., Salam, G. P., Sannino, F., Santiago, J., Schwartzman, A., Shepherd-Themistocleous, C., Sinervo, P., Sjoelin, J., Son, M., Spannowsky, M., Strauss, E., Takeuchi, M., Tseng, J., Tweedie, B., Vermilion, C., Voigt, J., Vos, M., Wacker, J., Wagner-Kuhr, J. & Wilson, M. G., 2011, In : The European Physical Journal C: Particles and Fields. 71, 6, p. 1661

#### **Cosmic Sum Rules**

T. Frandsen, M., Masina, I. & Sannino, F., 2011, In : Physical Review D. 83, 12, p. 127301 4 p.

#### **Cosmic-ray sum rules**

Masina, I., Sannino, F. & Frandsen, M. T., 2011, In : Physical Review D. 83, 12, p. 127301 4 p.

#### **Delineating the conformal window**

Frandsen, M. T., Pickup, T. & Teper, M., 2011, In : Physics Letters B: Particle Physics, Nuclear Physics and Cosmology. 695, 1-4, p. 231-237

#### **Direct detection of dark matter in models with a light Z'**

Frandsen, M. T., Kahlhoefer, F., Sarkar, S. & Schmidt-Hoberg, K., 2011, In : Journal of High Energy Physics (Online). September 2011, 128.

#### **Light asymmetric dark matter from new strong dynamics**

Frandsen, M. T., Sarkar, S. & Schmidt-Hoberg, K., 2011, In : Physical Review D. 84, 051703(R).

#### **Mixed dark matter from technicolor**

Belyaev, A., T. Frandsen, M., Sannino, F. & Sarkar, S., 2011, In : Physical Review D. 83, 1, p. 015007 9 p.

#### **On the DAMA and CoGeNT Modulations**

Frandsen, M. T., Kahlhoefer, F., March-Russell, J., McCabe, C., McCullough, M. & Schmidt-Hoberg, K., 2011, In : Physical Review D. 84, 4, 5 p., 041301.

#### **Vanilla Technicolor at Linear Colliders**

T. Frandsen, M., Jarvinen, M. & Sannino, F., 2011, In : Physical Review D. D84, 3, p. 035025 13 p.

#### **iTIMP: isotriplet Technicolor Interacting Massive Particle as Dark Matter**

T. Frandsen, M. & Sannino, F., 27. May 2010, In : Physical Review D. 81, 9, p. 097704 4 p.

#### **Asymmetric dark matter and the Sun**

Frandsen, M. T. & Sarkar, S., 2010, In : Physical Review Letters. 105, 1, 4 p., 011301.

#### **Fourth Lepton Family is Natural in Technicolor**

T. Frandsen, M., Masina, I. & Sannino, F., 2010, In : Physical Review D. 81, 3, p. 035010 18 p.

#### **From the LHC to Future Colliders**

De Roeck, A., Ellis, J., Grojean, C., Heinemeyer, S., Jakobs, K., Weiglein, G., Wells, J., Azuelos, G., Dawson, S., Gripaios, B., Han, T., Hewett, J., Lancaster, M., Mariotti, C., Moortgat, F., Moortgat-Pick, G., Polesello, G., Riemann, S., Schumacher, M., Assamagan, K. & 44 others, Bechtle, P., Carena, M., Chachamis, G., F. Chen, K., De Curtis, S., Desch, K., Dittmar, M., Dreiner, H., Dührssen, M., Foster, B., T. Frandsen, M., Giammanco, A., Godbole, R., Govoni, P., Gunion, J., Hollik, W., S. Hou, W., Isidori, G., Juste, A., Kalinowski, J., Korytov, A., Kou, E., Kraml, S., Krawczyk, M., Martin, A., Milstead, D., Morton-Thurtle, V., Moenig, K., Mele, B., Ozcan, E., Pieri, M., Plehn, T., Reina, L., Richter-Was, E., Rizzo, T., Rolbiecki, K., Sannino, F., Schram, M., Smillie, J., Sultansoy, S., Tattersall, J., Uwer, P., Webber, B. & Wienemann, P., 2010, In : The European Physical Journal C: Particles and Fields. 66, 3-4, p. 525-583

### **Technicolor Dark Matter**

Foadi, R., Frandsen, M. T. & Sannino, F., 1. Jan 2009, In : Physical Review D. D80, 3, p. 037702 4 p.

### **Technicolor Walks at the LHC**

Sannino, F., Foadi, R., Frandsen, M. T., Järvinen, M., Belyaev, A. & Pukhov, A., 2009, In : Physical Review D. D79, 3, p. 035006 32 p.

### **Higher representations on the lattice: perturbative studies**

Sannino, F., Del Debbio, L., Panagopoulos, H. & Frandsen, M. T., 3. Jun 2008, In : Journal of High Energy Physics (Online). 22 p.

### **Constraining walking and custodial technicolor**

Sannino, F., Foadi, R. & Frandsen, M. T., 2008, In : Physical Review D. 77 D, 9, p. 097702 4 p.

### **Minimal Walking Technicolor**

Frandsen, M. T., 23. Oct 2007, In : SUSY 2007 proceedings, 15th International Conference on Supersymmetry and Unification of Fundamental Interactions, July 26 - August 1, 2007, Karlsruhe, Germany.

### **Minimal Walking Technicolor: Set Up for Collider Physics**

Foadi, R., Frandsen, M. T., Rytto, T. & Sannino, F., 12. Jun 2007, In : Physical Review D. 76, 5, 17 p., 055005.

### **Corrigan-Ramond Extension of QCD at Nonzero Baryon Density**

T. Frandsen, M., Kouvaris, C. & Sannino, F., 2006, In : Physical Review D. 74, p. 117503

## **Activities**

### **24th Nordic Particle Physics Meeting, Spaatind**

Mads Toudal Frandsen (Keynote speaker)

2016 → ...

### **5th Odense Winter School on Theoretical Physics**

Mads Toudal Frandsen (Organizer)

8. Oct 2012 → 12. Oct 2012

### **Akademiet for talentfulde unge besøger CP3**

Mads Toudal Frandsen (Lecturer)

12. Mar 2013

### **ARK MATTER: ASTROPHYSICAL PROBES, LABORATORY TESTS, AND THEORY ASPECTS**

Mads Toudal Frandsen (Participant)

2015 → ...

### **AT-dage**

Mads Toudal Frandsen (Lecturer)

14. Feb 2014 → 19. Feb 2014

### **Beyond the LHC**

Mads Toudal Frandsen (Speaker)

22. Jul 2013 → 29. Jul 2013

### **Big Bang og mørkt stof**

Mads Toudal Frandsen (Lecturer)

8. May 2014

**Bright Ideas on Dark Matters**

Mads Toudal Frandsen (Organizer)  
31. Mar 2014 → 11. Apr 2014

**Brobygger foredrag for 25 Gymnasie-elever**

Mads Toudal Frandsen (Lecturer)  
25. Oct 2012

**CERN (External organisation)**

Mads Toudal Frandsen (Member)  
2012 → ...

**Composite Dynamics for EWSB and Dark Matter**

Mads Toudal Frandsen (Participant)  
2015

**Composite Dynamics: from Lattice to the LHC Run II**

Mads Toudal Frandsen (Keynote speaker)  
4. Apr 2016 → 9. Apr 2016

**CP3-Seminar**

Mads Toudal Frandsen (Speaker)  
2016

**Den bibliometriske forskningsindikator (External organisation)**

Mads Toudal Frandsen (Member)  
22. Jan 2014

**Det Unge Akademi (External organisation)**

Mads Toudal Frandsen (Member)  
2015 → 2020

**Foredrag om detektorer og acceleratorer**

Mads Toudal Frandsen (Lecturer)  
11. Sep 2013

**Future of Fundamental Interactions Interactions**

Mads Toudal Frandsen (Speaker)  
2015

**Giersing Realskole besøger CP3**

Mads Toudal Frandsen (Lecturer)  
27. Sep 2012

**Higgs Symposium**

Mads Toudal Frandsen (Participant)  
9. Jan 2013 → 11. Jan 2013

**Instrumentcenter for dansk astrofysik (External organisation)**

Mads Toudal Frandsen (Member)  
2014

**IPPP**

Mads Toudal Frandsen (Speaker)  
28. Feb 2013

**Mørkt stof**

Mads Toudal Frandsen (Lecturer)  
11. Apr 2013

**Mørkt stof i Universet**

Mads Toudal Frandsen (Lecturer)  
10. Apr 2012

**ngly interacting dynamics beyond the Standard Model and the Higgs boson**

Mads Toudal Frandsen (Speaker)  
24. Apr 2013 → 26. Apr 2013

**Nordita Master Class in Physics 2012**

Mads Toudal Frandsen (Speaker)  
28. Jul 2012 → 2. Aug 2012

**Nordita Winter School**

Mads Toudal Frandsen (Lecturer)  
Jan 2015

**Origin of Mass 2013**

Mads Toudal Frandsen (Organizer)  
5. Aug 2013 → 23. Aug 2013

**Oxford Journal Club**

Mads Toudal Frandsen (Speaker)  
7. Feb 2013

**Particle physics for high school teachers**

Mads Toudal Frandsen (Lecturer)  
17. Jan 2013

**Rudolf Peierls Center for Theoretical Physics (External organisation)**

Mads Toudal Frandsen (Member)  
2012 → ...

**Scientific Organizing Committee "Lattice Meets Experiment 2013: Beyond the Standard Model" (External organisation)**

Mads Toudal Frandsen (Member)  
5. Dec 2013 → 6. Dec 2013

**Searches for Compositeness**

Mads Toudal Frandsen (Lecturer)  
2015

**Standardmodellen, CERN og Higgs partiklen.**

Mads Toudal Frandsen (Lecturer)  
4. Feb 2014

**Strategy Workshop on Astroparticle Physics in Switzerland**

Mads Toudal Frandsen (Lecturer)  
11. Jun 2014

**Students from Slagelse Gymnasium visit CP<sup>3</sup>-Origins**

Mads Toudal Frandsen (Lecturer)

20. Mar 2013

**Tiden efter opdagelsen af Higgs-partiklen**

Mads Toudal Frandsen (Lecturer)

1. Nov 2012

**Universets gåder - Big Bang, mørkt stof og Higgs partiklen**

Mads Toudal Frandsen (Lecturer)

17. Feb 2014

**University of Southern Denmark**

Mads Toudal Frandsen (Visiting lecturer)

10. Jun 2013 → 30. Jun 2013

**WIN2015**

Mads Toudal Frandsen (Speaker)

2015 → ...