

# IFT-POSTEN

NYTT FRA INSTITUTT FOR FYSIKK  
OG TEKNOLOGI  
UNIVERSITETET I BERGEN

## Department Head's Intro

It is a pleasure to wish you all a very happy New Year, and welcome to yet another new semester!

Personally, after having digested huge amounts of rib fat in combination with lots of couch potato attitude, shamefully few New Year's resolutions have come about, but there is one thing I can wish for in the new year: we, as Department of Physics can be a bit more active in tapping in the funds in order to finance our diverse research. Only four propositions have been delivered to FRINATEK last year. This is indeed a very low number, which I truly hope will be solidly increased this year. We should also be more active when it comes to EU funds. I hope many of us can contribute in making 2015 a year where many good project ideas will be developed. As an example of a good research idea, we can point towards yesterday's article on Kristian Smeland Ytre-Hauge, published in *Aktuelt* at uib.no (check out page three in IFT-posten).

Next week we will be starting with classes again, and I would like to encourage everyone to continue putting on the emphasis on this part of their work activities. We have all heard stories about starting a course which would "start a revolution". I don't believe this is as widely spread as rumors would like to put it, but it would nonetheless be nice to start the semester with thoughts on significant teaching contributions and the desire for renewal.

In order not to start the New Year in a way too exhorted manner, I would like to finish off this intro by encouraging you all to follow Norwegian King's advice given in his New Year's speech (or possibly his Christmas speech). I am in any case almost certain that the King encouraged us to be a bit kinder to one another in the New Year. This is something I think we all should embrace, and if there is enough of us colleagues taking up that path, we all can only profit from it.

Have a great and hopefully not too stormy weekend!

Øyvind



*A young and hopeful Mister Frette, ready for yet another new semester, once upon a time before Internet.*

## Important information from the Financial Services at UiB

We would like to remind all of you with a time-defined work contracts (mostly students) that the lists with the number of worked hours should be delivered continuously – latest by the 15<sup>th</sup> of each month. [Here's a new form](#) for work paid by the hour. **Students who are getting paid by the hour should also remember that they need to have a valid contract upon starting the work.** Please contact Elin Pedersen from the Administration if you have any questions related to this.

Important: Travel expenses must also be delivered right upon the completion of your travel. Travel expenses should be delivered latest one month upon your return. Always remember to sign your travel expense reimbursement form - it must also be signed and authorized by your supervisor.

The reason for these changes is that the government has introduced stricter rules, starting as of January 1<sup>st</sup>, 2015.

If you are using the flexi form, [the new form for 2015 can be found here.](#)



## Seminar on applications to the Erasmus+ strategic partnerships

SIU invites to a seminar on applications to the strategic partnerships in Erasmus + programme,

The seminar is aimed at project leaders writing the applications, and will provide an opportunity for discussing concrete proposals, analyzing the application form and getting advice on how the applications can be improved.

**Time:** Tuesday, February 3<sup>rd</sup>, 10:00-15:00 hrs.

**Place:** Park Inn by Gardermoen Airport, Oslo.

[Here is some more information about the seminar, along with the registration form.](#) Final registration deadline is January **19**. Note that the number of participants is limited.

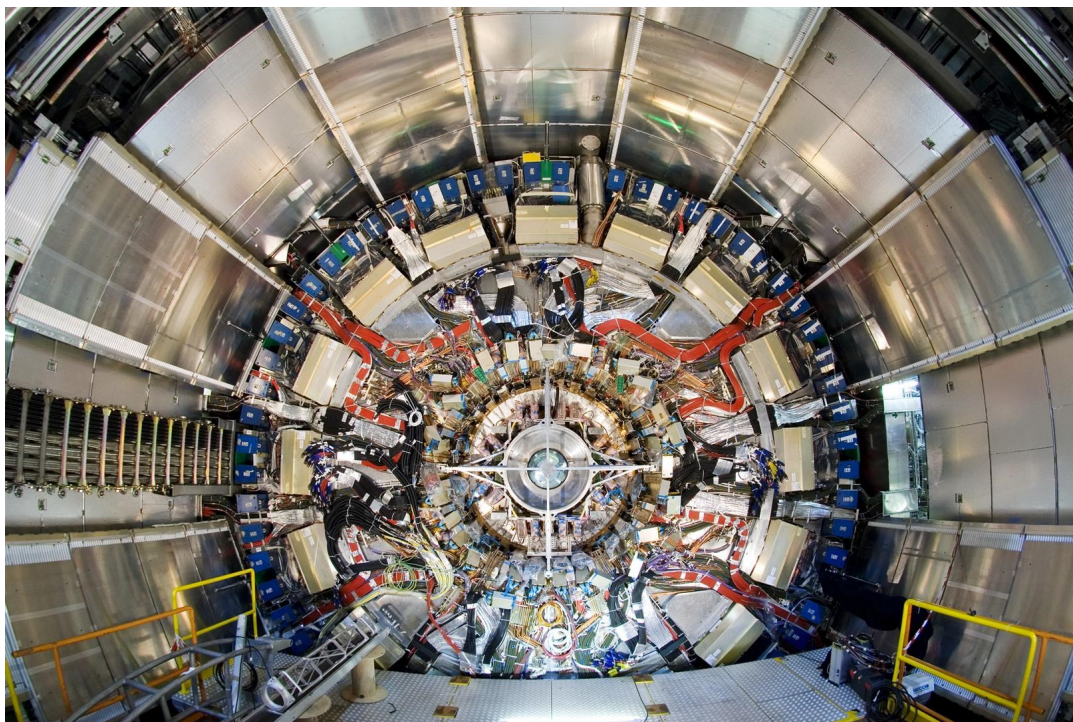
### Broaden your horizons with: The Polar Winter Atmosphere from Troposphere to Mesosphere

In collaboration with the Bjerknes Centre for Climate Research and ResClim Research School, the Birkeland Centre for Space Science offers the following course: "The Polar Winter Atmosphere from Troposphere to Mesosphere - coupling mechanisms, forcing and feedback".

This course is interdisciplinary and focuses on interaction between the various atmosphere layers and mechanisms which link them together, with emphasis on the role of the Sun.

**Time:** February 2<sup>nd</sup> – 6<sup>th</sup>. Registration deadline: January 12<sup>th</sup>.

[You can read more about the course at this link, as well as find the registration form.](#)



## What exactly are the interests of Particle Physicists?

Particle physicists at IFT are searching for, among other things, new particles from the so-called super-symmetrical models, with for example ATLAS-detector. One of these particles, the so-called *neutralino*, is considered today as the best candidate for the role of a dark matter particle. There are five times more dark matter than the usual atoms in the Universe. If you would like to learn more about what the particle physicists at IFT are doing, feel free to read [this article](#) in The Economist.

## Allocation of funding

Kristian Smeland Ytre-Hauge has been granted eight million kroner from Bergen Research Foundation, in order to offer gentle particle therapy at a new radiation center for cancer patients in Bergen, within a few years.

For several years, Ytre-Hauge has been doing research on how various types of radiation and different doses affect the human body. Among other things he compares photon beams with particle radiation.

- My role is to be a link between the university and the hospital, in terms of teaching, building expertise and to conduct research that is relevant to counselors at the new center, he says.

The project started in January this year. You can read more about this [at the webpages of UiB](#) (Norwegian only).



Photo: Kim E. Andreassen,  
Communication division, UiB

## Do you wish to implement digital exam in the spring of 2015?

IFT has been asked to submit topics who wish to conduct digital exams this semester. The deadline for this is short: January 14<sup>th</sup>. This applies for topics that conduct written exams.

The University has chosen a system called Inspera Assessment in order to digital assessment is. It will be possible to have both ordinary assignments where the computer acts as a typewriter, in addition to multiple-choice questions, interactive exercises and short questions. For more information, look at Insperas website: [www.inspera.no](http://www.inspera.no)

A detailed presentation of the opportunities and potential of this system will come in February.

See [the attached letter for more information](#), including plans for training and information.

## Research funds (PhD / Postdoc.)

VISTA is a research program that is funded by Statoil, and includes support of Ph.D. and post-doc positions. Its purpose is to promote collaboration between Statoil and academia, and is in collaboration with the Norwegian Academy of Science. Next application deadline is February 1<sup>st</sup>. [Here's more information](#).



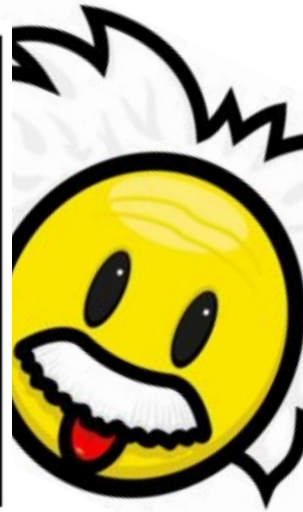
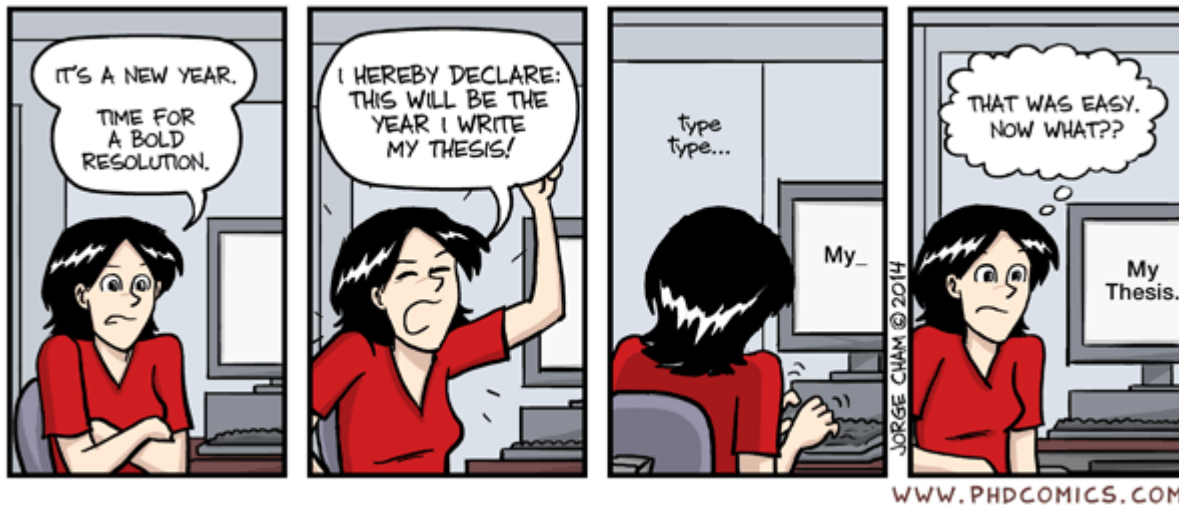
### The Akademia agreement - seminar: *Measurements and modeling of the subsurface.*

The Faculty of Mathematics and Natural aims to facilitate new projects to be financed by the Akademia Agreement, and therefore wishes to invite all interested parties to a day seminar to connect the university and the industry. The seminar will take place on January 23<sup>rd</sup>. Complementary announcement will come shortly. [See here for further information](#).

### No longer at IFT? Would you like to continue receiving IFT-posten?

If you would like to continue receiving IFT-posten after completing your studies or work contract at IFT, or you know someone who would like to be on our mailing list, feel free to send an e-mail to [ift-posten@ift.uib.no](mailto:ift-posten@ift.uib.no).





## Have you thought about possible student exchange during your course of studies?

On February 14<sup>th</sup>, the Faculty of Mathematics and Natural Sciences arranges an International Day. This is a golden opportunity for addressing all kinds of questions related to this topic and getting inspired to travel and explore the world! Would you like to go on student exchange? Perhaps you have already decided to travel abroad, or are you still weighing the pros and cons? We are arranging the International Day in order to provide the answers to all of your questions. We would like to help you as much as we can with our lectures, Q&A sessions and help with filling out the application forms.

Programme for the International Day 2015

Auditorium 2, Realfagbygget

10:15 Opening with Johanne Vågland, in charge of International Relations at the Student Parliament

10:30 How to apply?

11:00 Informative meeting with Lånekassen

11:30 - 11:45 Break

11:45 Why go on a student exchange? Students and one professor tell their exchange stories

12:30 - 13:15 Q&A session

Welcome!



Photo: Colourbox

## H-bar

H-bar is open every Friday from 19.00 - 01.00.

On Tuesdays, every even-numbered week, there are organized pub-lectures at H-bar.

More info at H-bar's [facebook page](#).



## Special offer from UiB

### New application period for the use of the cabins at Ustaoset and Tingviken – Spring 2015

It is now possible to apply electronically for the use of the [U-heimen](#), [Ottesheimen](#) and [Butten](#) cabins at Ustaoset and Tingviken cabin at Utne for the period between 29<sup>th</sup> of March – 21<sup>st</sup> of June 2015.

Easter holidays are included in his period. There is a three –year’s quarantine in case you have already had a chance of renting these cabins in Easter times over the last three years.

You have to use UiB’s electronic cabin rental system by logging in with your UiB user name and password: (<https://skjema.app.uib.no/hytter>) If you are applying for cabin rental for the first time, you need to provide some information, such as billing address.

All applications have to be registered in the electronic cabin rental system, in order to participate in the drawing of the lucky winners.

Application form and information on cabins is available also from the Employee pages under «Mitt ansattforhold» -«Velferd»- «Velferdshytter til utleie». Log in with your user name and password at UiB.

Application deadline is February 13<sup>th</sup>, and the lucky winners will be drawn on 17<sup>th</sup> of February 2015.

Regards,

Estate and Facilities Management division



## An enemy of the people, by Henrik Ibsen

Thursday, January 22<sup>nd</sup>, at 19:30

UiB-price: kr. 250,-.

Tickets can be ordered via DNS’ ticket office, via phone 55 60 70 80 or via [dns@dns.no](mailto:dns@dns.no).

Tickets should be collected from the DNS’s ticket office, no later than one week after placing the reservation.

[Read here for more information about this theatre play .](#)

## Publications:

- Kosinski, Pawel; et al.: *Agglomeration of solid particles by liquid bridge flocculants: Pragmatic modelling* CHEMICAL ENGINEERING SCIENCE Volume: 122 Pages: 173-181
- Haugen, Asmund; Ferno, Martin A.; et al.: *The Effect of Viscosity on Relative Permeabilities Derived from Spontaneous Imbibition Tests* TRANSPORT IN POROUS MEDIA Volume: 106 Issue: 2 Pages: 383-404
- Jensen, Bjornar; Kuznetsova, Tatiana; Kvamme, Bjorn; Olsen, Richard; et al.: *The impact of electrostatics in bulk Linde Type A zeolites* MICROPOROUS AND MESOPOROUS MATERIALS Volume: 201 Pages: 105-115
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Freeze-out radii extracted from three-pion cumulants in pp, p-Pb and Pb-Pb collisions at the LHC ALICE Collaboration* PHYSICS LETTERS B Volume: 739 Pages: 139-151
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendahl, P. L.; Sandaker, H.; Sjurksen, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Measurement of inclusive jet charged-particle fragmentation functions in Pb plus Pb collisions at root S-NN=2.76 TeV with the ATLAS detector* PHYSICS LETTERS B Volume: 739 Pages: 320-342
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendahl, P. L.; Sandaker, H.; Sjurksen, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Search for nonpointing and delayed photons in the diphoton and missing transverse momentum final state in 8 TeV pp collisions at the LHC using the ATLAS detector* PHYSICAL REVIEW D Volume: 90 Issue: 11
- Hamre, Borge; et al.: *Blocking blue light during mania - markedly increased regularity of sleep and rapid improvement of symptoms: a case report* BIPOLAR DISORDERS Volume: 16 Issue: 8 Pages: 894-898
- Gruner, Renate; et al.: *Cognitive Executive Impairment and Dopaminergic Deficits in De Novo Parkinson's Disease* MOVEMENT DISORDERS Volume: 29 Issue: 14 Pages: 1802-1808
- Haugan, E.; Holst, B.: *FLAX LOOK-ALIKES: PITFALLS OF ANCIENT PLANT FIBRE IDENTIFICATION* ARCHAEOOMETRY Volume: 56 Issue: 6 Pages: 951-960
- Csernai, L. P.; et al.: *Global collective flow in heavy ion reactions from the beginnings to the future* JOURNAL OF PHYSICS G-NUCLEAR AND PARTICLE PHYSICS Volume: 41 Issue: 12
- Eckhoff, Rolf; et al.: *Influence of Liquid and Vapourized Solvents on Explosibility of Pharmaceutical Excipient Dusts* PROCESS SAFETY PROGRESS Volume: 33 Issue: 4 Pages: 374-379
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendahl, P. L.; Sandaker, H.; Sjurksen, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *This record has been added to your Marked List. Observation of an Excited B-c(+/-) Meson State with the ATLAS Detector* PHYSICAL REVIEW LETTERS Volume: 113 Issue: 21
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendahl, P. L.; Sandaker, H.; Sjurksen, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Search for pair and single production of new heavy quarks that decay to a Z boson and a third-generation quark in pp collisions at root s=8 TeV with the ATLAS detector* JOURNAL OF HIGH ENERGY PHYSICS Issue: 11 Article Number: 104
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendahl, P. L.; Sandaker, H.; Sjurksen, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Search for long-lived neutral particles decaying into lepton jets in proton-proton collisions at root s=8 TeV with the ATLAS detector* JOURNAL OF HIGH ENERGY PHYSICS Issue: 11 Article Number: 088
- Osland, P.; et al.: *Measuring CP violation in two-Higgs-doublet models in light of the LHC Higgs data* JOURNAL OF HIGH ENERGY PHYSICS Issue: 11 Article Number: 084

(cont.)

## Publications:

- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendah, P. L.; Sandaker, H.; Sjursten, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Measurement of the cross section of high transverse momentum  $Z \rightarrow b\bar{b}$  production in proton-proton collisions at root  $s=8$  TeV with the ATLAS detector* PHYSICS LETTERS B Volume: 738 Pages: 25-43
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendah, P. L.; Sandaker, H.; Sjursten, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Search for the Standard Model Higgs boson decay to  $\mu^{(+)}\mu^{(-)}$  with the ATLAS detector* PHYSICS LETTERS B Volume: 738 Pages: 68-86
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *This record has been added to your Marked List. Beauty production in  $pp$  collisions at root  $s=2.76$  TeV measured via semi-electronic decays* PHYSICS LETTERS B Volume: 738 Pages: 97-108
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendah, P. L.; Sandaker, H.; Sjursten, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Fiducial and differential cross sections of Higgs boson production measured in the four-lepton decay channel in  $pp$  collisions at root  $s=8$  TeV with the ATLAS detector* PHYSICS LETTERS B Volume: 738 Pages: 234-253
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Suppression of Upsilon(1S) at forward rapidity in Pb-Pb collisions at root  $s(NN)=2.76$  TeV* PHYSICS LETTERS B Volume: 738 Pages: 361-372
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendah, P. L.; Sandaker, H.; Sjursten, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Search for new resonances in  $W$  gamma and  $Z$  gamma final states in  $pp$  collisions at root  $s=8$  TeV with the ATLAS detector* PHYSICS LETTERS B Volume: 738 Pages: 428-447
- Forre, Morten; Simonsen, Aleksander Skjerlie: *Nondipole ionization dynamics in atoms induced by intense xuv laser fields* PHYSICAL REVIEW A Volume: 90 Issue: 5
- Simonsen, Aleksander Skjerlie; Forre, Morten; et al.: *Distinction between sequential and direct ionization in two-photon double ionization of helium* PHYSICAL REVIEW A Volume: 90 Issue: 5
- Eigen, G.; Stugu, B.; et al.: *Measurements of direct CP asymmetries in  $B \rightarrow X$ -s gamma decays using sum of exclusive decays* PHYSICAL REVIEW D Volume: 90 Issue: 9
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Multiparticle azimuthal correlations in  $p$ -Pb and Pb-Pb collisions at the CERN Large Hadron Collider* PHYSICAL REVIEW C Volume: 90 Issue: 5
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Measurement of visible cross sections in proton-lead collisions at root  $s(NN)=5.02$  TeV in van der Meer scans with the ALICE detector* JOURNAL OF INSTRUMENTATION Volume: 9
- Buanes, T.; Dale, O.; Eigen, G.; Kastanas, A.; Liebig, W.; Lipniacka, A.; Latour, B. Martin dit; Rosendah, P. L.; Sandaker, H.; Sjursten, T. B.; Smestad, L.; Stugu, B.; Ugland, M.; et al.: *Measurement of differential production cross-sections for a  $Z$  boson in association with  $b$ -jets in 7 TeV proton-proton collisions with the ATLAS detector* JOURNAL OF HIGH ENERGY PHYSICS Issue: 10 Article Number: 141
- Hammer, Erling; et al.: *Preventing injuries and recovery for electrically stunned Atlantic salmon (*Salmo salar*) using high frequency spectrum combined with a thermal shock* AQUACULTURE Volume: 434 Pages: 277-281

(cont.)

## Publications:

- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Neutral pion production at midrapidity in pp and Pb-Pb collisions at  $\sqrt{s_{NN}}=2.76$  TeV* EUROPEAN PHYSICAL JOURNAL C Volume: 74 Issue: 10
- Altinpinar, S.; Djuvsland, O.; Fehlker, D.; Haaland, O.; Huang, M.; Loenne, I.; Nystrand, J.; Rehman, A.; Rohrich, D.; Skjerdal, K.; Ullaland, K.; Velure, A.; Wagner, B.; Yang, S.; Zhou, Zhuo; et al.: *Event-by-event mean  $p(T)$  fluctuations in pp and Pb-Pb collisions at the LHC* EUROPEAN PHYSICAL JOURNAL C Volume: 74 Issue: 10
- van der Meeren, Christer; Oksavik, Kjellmar; et al.: *GPS scintillation and irregularities at the front of an ionization tongue in the nightside polar ionosphere* JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS Volume: 119 Issue: 10 Pages: 8624-8636
- Nisi, R. S.; Ostgaard, N.; Gjesteland, T.; et al.: *An altitude and distance correction to the source fluence distribution of TGFs* JOURNAL OF GEOPHYSICAL RESEARCH-SPACE PHYSICS Volume: 119 Issue: 10 Pages: 8698-8704
- Taskjelle, Torbjorn; Barthel, Knut; Gammelsrod, Tor; et al.: *Modelling alongshore flow in a semi-enclosed lagoon strongly forced by tides and waves* ESTUARINE COASTAL AND SHELF SCIENCE Volume: 149 Pages: 294-301





## Useful links

[The IFT Webpages](#)

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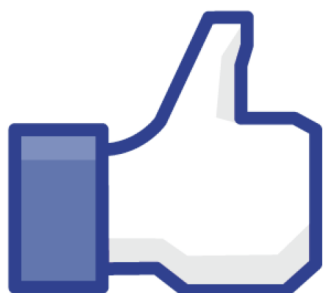
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[Bjørn Trumpy](#), 1900 - 1974



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