

1st Chalmers Meeting on Runaway Electron Modelling (REM) 18-22 March 2013

organized by the
Fusion Theory group
Division of Nuclear Engineering
Department of Applied Physics

The aim of the meeting is to make progress on projects of common interest in the runaway electron modelling area. This will be accomplished by informal talks followed by round-table or one-to-one discussions. The meeting will take place in room 6144 at the Nuclear Engineering Department, Fysikgården 4 at Chalmers.

Participants

Joan Decker, Emelie Nilsson, Yves Peysson, CEA, France

Håkan Smith, Michael Drevlak, IPP Greifswald

Gergő Pokol, Anna Kómár, BME Budapest

Matt Landreman, MIT, USA

Eric Hollmann, GA, USA

Otto Asunta, Aalto Univ, Finland

Adam Stahl, Gergely Papp, Tünde Fülöp and others, Chalmers

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Programme

Times and lengths of talks given here are only indicative.

Monday

Theme: tools and experiments

8:40 Meeting in the lobby of hotel Poseidon for those who want to go together to Chalmers

9:00 Meeting in the Nuclear Engineering coffee room

9:30 Tünde: General introduction, presentation of programme

10:00 Joan: Runaway modelling with LUKE

10:45 Matt: Runaway modelling with CODE

12:00 Lunch

13:00 Matt: Avalanche in CODE

13:30 Emelie: Avalanche in LUKE

14:00 Yves: Consistent description of runaway avalanches with bounce-averaged Fokker-Planck calculations

14:30-15 Coffee

15:00 Eric: Description of DIII-D runaways

16:00 Geri: Runaway modelling with GO and results of JET simulations

Tuesday

Theme: magnetic perturbations

9:15-10 Everyone: spontaneous comments (3 mins/pers)

10:00 Michael: Description of ANTS

10:30 Geri: Runaway electron transport in the presence of resonant magnetic perturbations, simulated by ANTS

13:15 Otto: ASCOT: Modelling fast ions in 3D magnetic fields

14:00 Håkan: Passive runaway electron mitigation

14:45-15:15 Coffee

15:15 Continued discussions and work

16:00 Visit to Chalmers nanofabrication facility at MC2 (Dept of Microtechnology and Nanoscience)

Wednesday

Theme: kinetic instabilities

9:15-10 Everyone: spontaneous comments

10:00 Anna: Kinetic instabilities driven by anisotropic electron beams

10:45 Gergő: Quasilinear analysis of electromagnetic waves driven by electron beams

13-16 Round table discussion on the issues raised.

Formulation of common projects.

What is missing from the half-finished projects?

Maybe make progress on those.

Thursday

Theme: space plasmas and synchrotron radiation

9:30-10 Everyone: spontaneous comments

10:00 Tünde: Ion runaway in solar flares and lightning discharges

10:30 Håkan: Electron transport in the fast solar wind

13:15-14 Adam: Synchrotron radiation from runaway electrons in plasmas (MSc presentation)

14-14:45 Coffee and cake after Adam's presentation

14:45 Håkan: On hot-tail generation (for those who want to know more about that)

15:30-17 Continued discussion and work

Friday

Theme: finishing

What has been accomplished and what do we want to do in the future:

short (informal) talks from everyone

Restaurants nearby

There are plenty of restaurants near Avenyn and close to hotel Poseidon, and also a lot of pizzerias and sushi places along Gibraltargatan. The following are just suggestions.

- Krakow, Karl Gustavsgatan 28 http://www.krakow.nu/map_en.php
(open Mon-Sat 17-24)
- Ottomania, Aschebergsgatan 23, <http://ottomania.se/oppettider.aspx>
- Smaka, Vasaplatsen 3, http://www.smaka.se/eng_meny.html
- Johannebar, Eklandagatan 65, <http://www.johannebar.se/>
- Bryggeriet, Kungsportsavenyn 3, <http://www.bryggeriet.se/index.php/restaurang>
- Sjöbaren, Lorensbergsgatan 14 <http://www.sjobaren.se/lorensberg/>

Practicalities

Transportation The cheapest way to get from the airport to the city center is to use the airport bus. It leaves every 20 mins and takes about half an hour to get to the city (same as with the taxi). It costs about 10 euros (89 SEK one way). The stop which is closest to Hotel Poseidon is Park Avenue. Tickets can be bought online in advance or onboard (but only with credit cards). More info at: <http://www.flygbussarna.se/en/landvetter>. Taxi costs a bit more than 400SEK.

It is not far from the hotel to the university and the easiest way to get there is by walking (15 min), as shown in the figures. For those who want to use public transportation, the easiest is to buy a tourist and visitor card: <http://www.vasttrafik.se/#!/en/2/6/> This is sold for example at Korsvägen or at Seven Eleven at Vasaplatsen (close to the hotel).

A map of Göteborg can be found here: <http://www.stadskartan.se/goteborg/>

For those who like to bike, you can read about how to loan one here <http://en.goteborgbikes.se/>

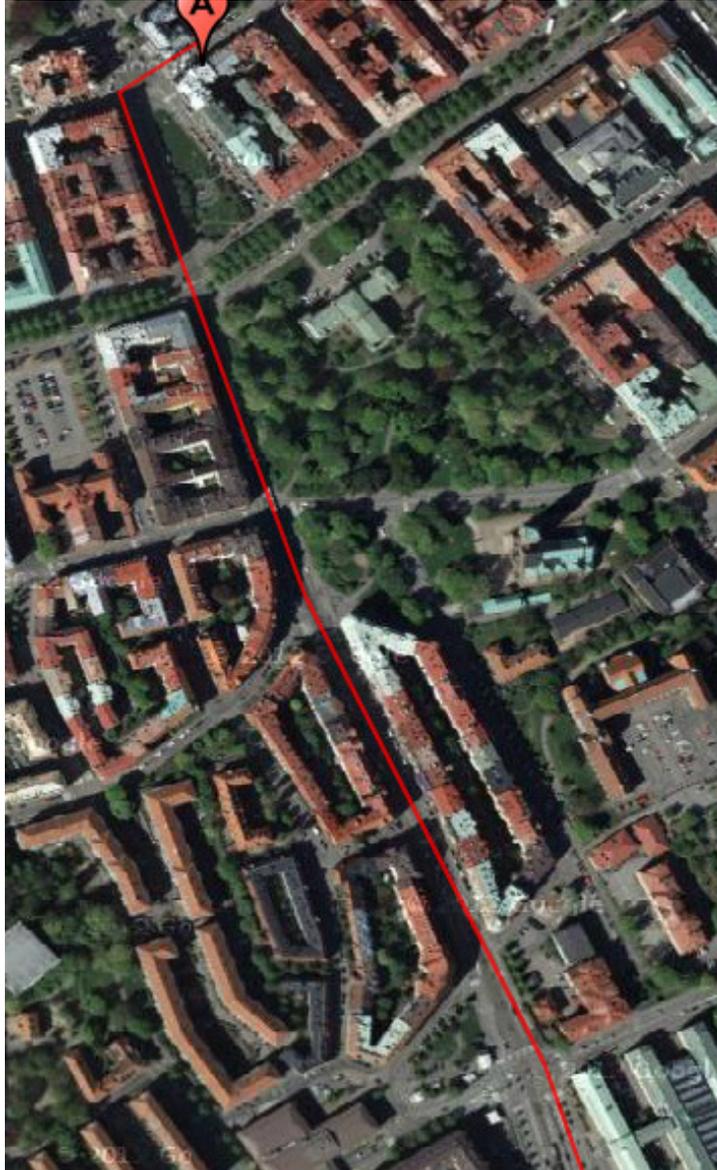


Figure 1: The easiest route from the hotel (A) to Chalmers is to take Aschebergsgatan. You can find the map under <http://goo.gl/maps/UbvNx>. An alternative is to take trams 7, 10 or bus 16 from Vasaplatsen to Kapellplatsen (just one stop) or Chalmers station (one more).

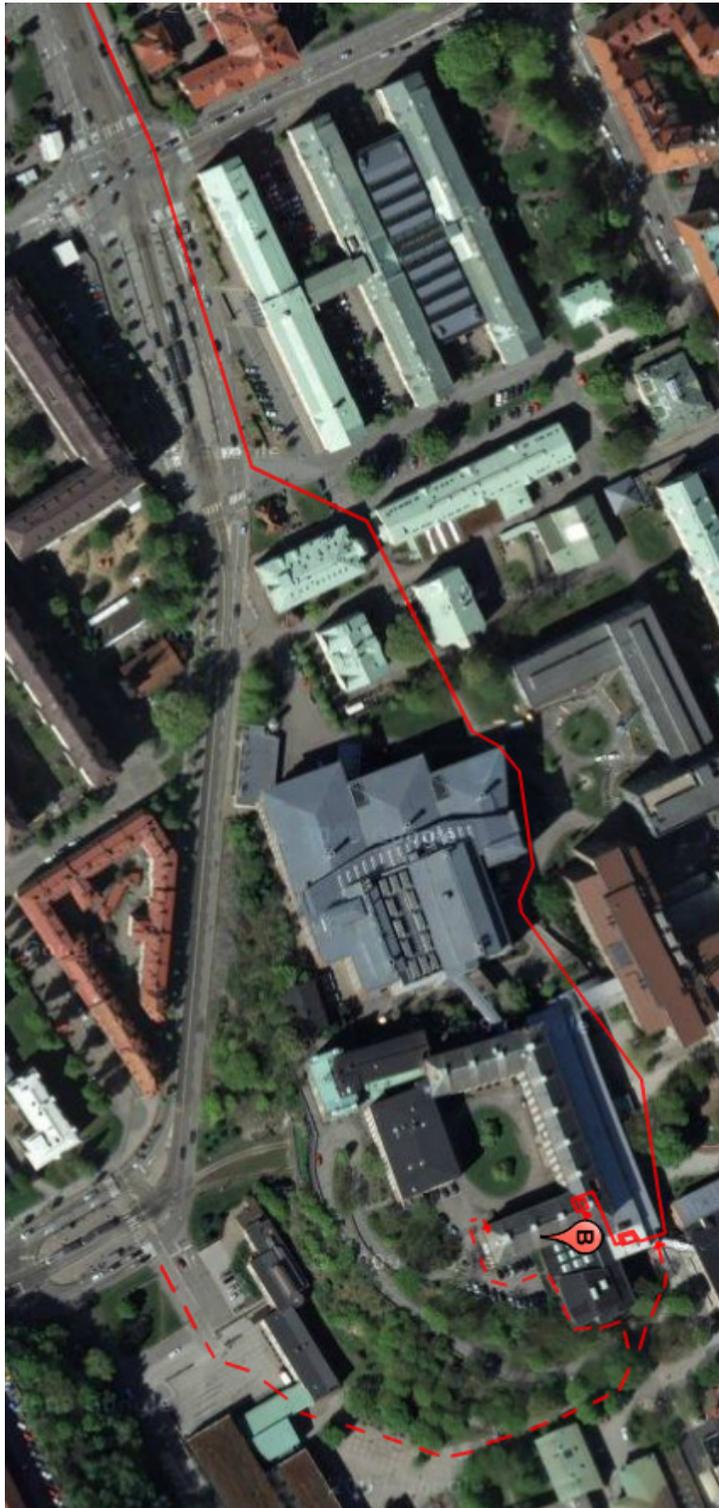


Figure 2: The meeting is located at the 6th floor of the south wing of the physics building. The two easiest ways to enter the building are shown on the map. Note that the solid line route inside the building is not trivial.