6th international Workshop and Meeting on Laser-Induced Incandescence

Program

Sunday, June 8, 2014

17:00 – 19:00	Registration at Backafallsbyn
18:00 – 20:00	Buffet at Backafallsbyn

Monday, June 9, 2014

8:00	Registration, Setting up of posters		
8:30	Welcome		
8:40	**Oral session 1**	8:40	Talk 1.1 - Advances in Modeling Laser-Induced Incandescence from Carbonaceous Particles; H. A. Michelsen
		9:00	Talk 1.2 - Influence of the internal multiple scattering on the absorption and scattering properties of soot fractal aggregates; J. Yon, F. Liu
		9:20	Talk 1.3 - An experimental and numerical study of gas heating by heat conduction from laser heated soot in a diffusion flame using LII and CARS; N.-E. Olofsson, E. Nordström, J. Simonsson, H. Bladh, P.-E. Bengtsson
		9:40	Talk 1.4 - Gas dynamics of sublimated species in high-fluence laser induced Incandescence; F. Memarian, F. Liu, K.A. Thomson, D.R. Snelling, G.J. Smallwood
		10:00	Talk 1.5 - Effects of volatile coatings and soot morphology on laser induced Incandescence; R. Bambha, M. Dansson, P. Schrader, H. A. Michelsen
10:20	**Coffee**		
10:50	Poster advertisement session		
12:00	**Lunch**		
13:20	**Oral session 2**	13.20	Talk 2.1 - Quantifying the Thermal Accommodation Coefficient for TiRe-LII Analysis of Iron Nanoparticles; T. A. Sipkens, N. R. Singh, K. J. Daun, N. Bizmark, M. Ioannidis, J. T. Titantah, M. Karttunen
		13:40	Talk 2.2 - Effects of organic carbon fraction and removal of organic material on light extinction by laser-heated soot; M. Saffaripour, K.P. Geigle, K. Thomson, D.R. Snelling
		14:00	Talk 2.3 - On the Way to In-Cylinder 2D Time-Resolved LII measurements; A. Maier, A. Dreizler
		14:20	Talk 2.4 - Photoacoustic Soot Measurement: Comparison with LII; J. Black, G. S. Humphries, J. Dunn, M. Lengden, I. S. Burns
		14:40	Talk 2.5 - Assessment of soot particle-size imaging with LII at Diesel engine Conditions; E. Cenker, K. Kondo, G. Bruneaux, T. Dreier, T. Aizawa, C. Schulz
15:00	**Coffee**		
16:00	Visit to the Tycho Brahe museum		
18:00	**Dinner**		
19:30 - 23:00	Poster session		

Tuesday, June 10, 2014

8:30	**Discussion session 1**	8:30	**Measurements in LII standard flames** ***Chair:*** *Klaus-Peter Geigle, DLR Stuttgart, Germany* Overview of LII relevant information measured in the LII standard flames (focus) and trend studies, i.e. change of burner material, measurement location in flame, or other parameters.
		9:15	**Determination of key parameters for LII** ***Chair:*** *Stefan Will, LTT Erlangen, Germany* Experimental/numerical/theoretical contributions to the determination of key parameters for LII such as accommodation coefficient, complex index of refraction/absorption function, etc.
10:00	**Coffee**		
10:30	**Oral session 3**	10:30	Talk 3.1 - Experimental Investigation of the impact of imposed air inlet velocity oscillations on Soot Formation and Oxidation using an advanced 2-Colour-TIRE-LII; A. Aleksandrov, H. Bockhorn, R. Suntz
		10:50	Talk 3.2 - Correlated laser-induced fluorescence of PAH and laser-induced incandescence to visualize soot inception in turbulent flames; K.P. Geigle, W. O'Loughlin, W. Meier
		11:10	Talk 3.3 - Soot size and concentration in combusting sprays at high gas pressures and elevated temperatures estimated by optical methods; R. Ochoterena, M. Andersson, S. Andersson
		11:30	Talk 3.4 - Laser-induced incandescence (LII) measurements on gas-borne silicon Nanoparticles; R. Mansmann, T. Dreier, H. Wiggers, C. Schulz
		11:50	Talk 3.5 - Aerosol mass spectrometry of refractory black carbon containing particles; T.B. Onasch, E.C. Fortner, P. Massoli, L.R. Williams, A.T. Lambe, A.M. Trimborn, J. T. Jayne, P. Davidovits, and D.R. Worsnop
12:10	**Lunch**		
13:30	**Discussion session 2**	13:30	**LII of emitted and ambient soot** ***Chair:*** *Kevin Thomson, NRC, Ottawa, Canada* Experimental/numerical/theoretical activities, issues, and best practices of LII applied to non-volatile particulate matter (soot, black carbon) emitted from combustion processes as an exhaust or after it has evolved in the atmosphere.
		14:15	**Combined techniques** [S. de Iuliis] ***Chair:*** *Silvana de Iuliis, CNR-IENI, Milan, Italy* Experimental and numerical approaches on the combination of LII with optical (scattering, emission, absorption, etc...) and/or non-optical diagnostics (TEM analysis, photoacoustic, etc). Burning issues to gain more insight on the comprehension of the technique and on the soot optical properties.
15:00	**Coffee**		
15:30	Free afternoon		
18:00	Poster session		
19:00	**Dinner**		
21:00 – 23:00	Poster session		

Wednesday, June 11, 2014

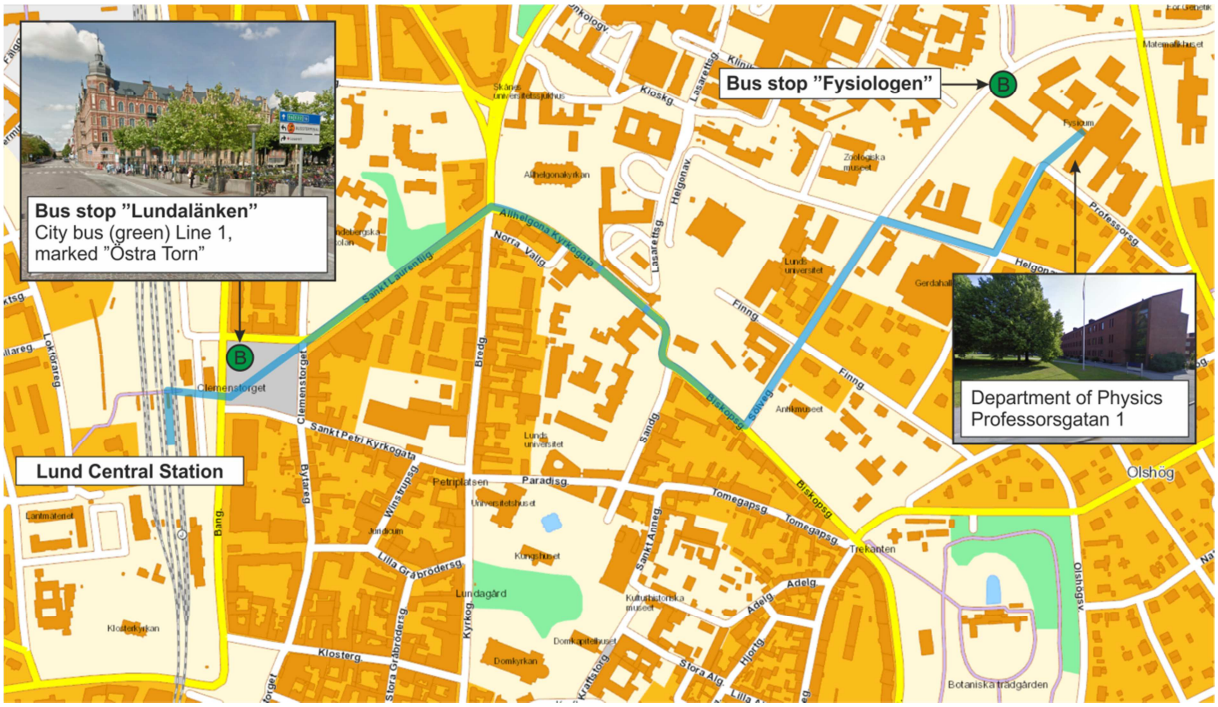
8:00	Poster session (9:00 - 10:00: Advisory committee closed meeting)		
10:00	**Coffee**		
10:30	**Discussion session 3**	10:30	**Non-soot LII** ***Chair:*** *Christof Schulz, IVG and CENIDE, University of Duisburg-Essen, Duisburg, Germany* Fundamental experiments and simulation (optical properties, accommodation coefficients, fluence dependence) on non-soot particles/new application of LII to non-soot particles/LII combined with other laser-induced emission signals or scattering, etc.
		11:15	**LII modeling** ***Chair:*** *Hope Michelsen, Sandia National laboratories, CA, USA* Theoretical modeling of the LII process. The latest developments with regards to the model descriptions of the heat-up process involved in LII will be discussed.
12:00	Summary and closure of workshop		
12:30	**Lunch**		

Thursday, June 12, 2014

There will be a possibility of a guided tour at the division of Combustion Physics in Lund at 08:30. Optionally more tours can be arranged later the same day.

Directions:

Take a train towards Malmö from the Landskrona train station. All trains make a stop in Lund. At the Lund central station it is a 15 minutes' walk to the Department of Physics. Buses depart 4 times an hour from the bus stop at Clemenstorget called "Lundalänken". Take green city bus, Line 1, marked "Östra Torn". If you want to grab a Taxi, the address is Professorsgatan 1.



Posters

Number	Title
1	In situ analysis of the nanoparticle formation in the gas phase during carbon nanotube synthesis; A. Dichiara, Y. Ma, L. Zimmer, J. Bai
2	Mo nanoparticle sizing by Ti-Re LII and TEM; A. Eremin, E. Gurentsov, M. Yurischev
3	Soot measurements in premixed high-pressure flames using light emission, TiRe-LII, laser extinction, and TEM-sampling; M. Leschowski, T. Dreier, C. Schulz
4	LII in an Aero-Engine Exhaust Using a Low Peak Power Fibre Laser; J. D. Black, D. McCormick, Y. Feng
5	Spectrally- and temporally-resolved laser-induced incandescence (LII) on gas-borne silicon nanoparticles with varying laser fluence; J. Menser, T. Dreier, C. Schulz
6	Quantitative Measurements of Soot Volume Fraction Using Planar LII in Diesel Spray Combustion under Diesel Engine Conditions; Y. Gao, F. Liu, X. He, F. Liu, L. Zheng, J. Wang
7	Application of Planar Laser Induced Incandescence in Turbulent and Sooting Flames: The Influence of Radiation Trapping and Beam Steering; Z. T. Alwahabi, Z. W. Sun, G. J. Nathan, B. B. Dally
8	Real-time Capable Characterization of Soot Nanoparticles by Wide-Angle Light Scattering (WALS); F. Huber, M. Altenhoff, S. Will
9	Approach to standardize a spray-flame nanoparticle synthesis burner; J. Menser, S. Kluge, T. Dreier, C. Schulz
10	Soot optical properties investigation by two-color laser-induced incandescence measurements; F. Migliorini, S. De Iuliis, G. Zizak
11	Determination of small soot particles in the presence of large ones from time-resolved laser-induced incandescence; E. Cenker, G. Bruneaux, T. Dreier, C. Schulz
12	Sensitivity analysis for in-cylinder soot-particle size imaging with laser-induced Incandescence; E. Cenker, G. Bruneaux, T. Dreier, C. Schulz
13	Assessment of soot particle-size imaging with LII at Diesel engine conditions; E. Cenker, K. Kondo, G. Bruneaux, T. Dreier, T. Aizawa, C. Schulz
14	Soot volume fraction measurement by extinction and Laser Induced Incandescence in a wood-fired boiler under varying boiler conditions; S. Bejaoui, E. Therssen
15	Measurement of soot temperature, concentration and cooling rate; and bulk fluid temperature using modulated laser induced incandescence; D.R. Snelling, K.A. Thomson, R. A. Sawchuk, G.J. Smallwood
16	Probing the smallest soot particles in low-sooting premixed flames using laser-induced incandescence; H. Bladh, N.-E. Olofsson, T. Mouton, J. Simonsson, X. Mercier, A. Faccinetto, P.-E. Bengtsson, P. Desgroux
17	Mini-CAST as a Cold Soot Source for Studying Optical Properties of Well Characterized Carbonaceous Particles; S. Török, A. Eriksson, J. Simonsson, N-E. Olofsson, J. Pagels, H. Bladh, P-E. Bengtsson
18	Studies of optical and physical properties of soot in premixed flat flames using laser-induced incandescence, elastic light scattering and extinction; J. Simonsson, N.-E. Olofsson, S. Török, H. Bladh, P.-E. Bengtsson
19	Effect of primary particle polydispdersity on the absorption cross section of soot aggregate and the implications to the soot absorption function derived from low-fluence LII; F. Liu, J. Yon
20	Comparison of LII and Extinction Measurements of Soot Volume Fraction in Turbulent Jet Flames; C. R. Shaddix, J. Zhang
21	Soot Measurements in Counterflow Non-premixed Flames using Laser Induced Incandescence: Soot Volume Fraction, Particle Size, and Number Density; B.G. Sarnacki, H.K. Chelliah