流体科学研究所　博士前期課程学生海外発表促進プログラム　報告書

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申請者氏名・所属・学年
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国際会議名
36TH INTERNATIONAL SYMPOSIUM ON COMBUSTION

出張先と日程
COEX, SEOUL, KOREA・2016 年 7 月 31 日～8 月 5 日

発表タイトルと著者
発表タイトル：Extinction characteristics of counterflow premixed flames for ammonia/air, methane/air and their mixtures
著者：S. Colson, T. Goto, T. Kudo, A. Hayakawa, H. Kobayashi

1. 研究発表の内容

During the poster presentation session, I presented the recent work progress done on ammonia combustion : presentation of general context and objectives, experimental setup and numerical environment explanations, presentation of the results on the extinction stretch rate of ammonia/air, methane/air and their mixture and comparison of different available chemical mechanisms with experimental results, reaction path analysis and current investigations on the chemical mechanisms.

2. 今回の出張・発表で学んだこと

It was really interesting to exchange with different research on my poster. I could get some feedback on my work, especially on how to improve my current measurement, or how to continue my research project, and some advices (intermediates species measurements and temperature profiles often necessary to do mechanism validation, laser measurements and repetition of the experiment to avoid the strong assumptions on flow field, and evaluate the repetability and the deviation from measurement curve). It was also an occasion to improve the way I introduce my research ammonia direct combustion, as many researcher were surprised by this topic, and ask many thing about context, feasability of ammonia based engines, efficiency....

I also had the opportunity to assist to many presentation on a wide panel of combustion related topics (plasma stabilisation of the flames, soot formation process, acoustics instabilities, Lewis number effect on turbulent flame front, NOx formation process, Mass Spectrometry methods...).

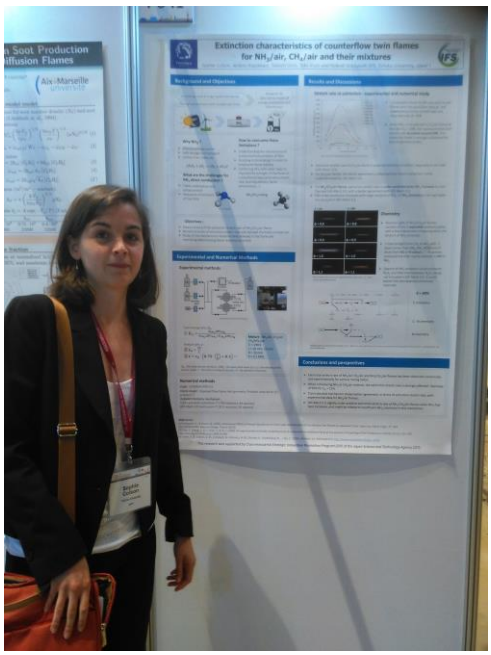
3. 本プログラムへの提案・感想

I am really glad I could benefit from this program, which allowed me to experience this international conference. This was a really rewarding experience.

4. 指導教員所見

Sophie Colson は ECL と東北大学のダブルディグリープログラムにより博士前期課程２年に在籍している．国際会議での発表は２回目であるが，今回は燃焼研究に関する最大の国際会議であって世界のトップ研究者が概ね全て参加し貴重な講演が行われた．母国フランスからの参加者が多いことにも驚いた様子であった．本人のポスターにも多数の質問があって大いに刺激を受けたようである．

5. 発表時の写真など


Extinction characteristics of counterflow twin flames
for NH3/air, CH4/air and their mixtures
Aix-Marseille