第 121 回メカニカルシステムセミナー

第 91 回エネルギー超高度利用研究拠点セミナー

Metal fuels and metal flames in the discrete combustion regime

日　　時	2021 年 11 月 11 日　午前 8:00－11:00（日本標準時）
場　　所	オンライン（Online）
URL	https://teams.microsoft.com/l/meetup-join/19%3ameeting_ZmFiNmY4ZWUtNjBiNS00OTQ2LWFkZDktMTViNmY5NTEwYjdj%40thread.v2/0?context=%7b%22Tid%22%3a%22c40454dd-b263-4926-868d-8e12640d3750%22%2c%22Oid%22%3a%22dc8cf9db-f51b-4caf-b942-f42fb14cdf23%22%7d
講　演　者	Prof. Jeffrey Bergthorson, Department of Mechanical Engineering, McGill University, Canada

Jeffrey Bergthorson is the Panda Faculty Scholar in Sustainable Engineering and Design, and a Professor in the Department of Mechanical Engineering, at McGill University where he leads the Alternative Fuels Laboratory. He received his B.Sc. in Mechanical Engineering from the University of Manitoba (1999), and his M.Sc. (2000) and Ph.D. (2005) in Aeronautics from the Graduate Aeronautical Laboratories of the California Institute of Technology. Prof. Bergthorson is a Fellow of the Combustion Institute and a Fellow of the American Society of Mechanical Engineers. Prof. Bergthorson's research interests are in the broad area of the combustion and emissions properties of alternative and sustainable fuels, including biofuels, hydrogen, and the use of metals as recyclable fuels.

講演タイトル	Metal fuels and metal flames in the discrete combustion regime
講演概要	次ページの Abstract をご参照ください.
申込方法	下記のリンクに記入下さい。https://forms.gle/pUwvc95iVFWiFjT3A
参加費	無料

問合わせ先：広島大学大学院先進理工系科学研究科
金佑勁（　E-mail ： kimwk@hiroshima-u.ac.jp　Tel ： 082-424-7559　）

Abstract

In order to address climate change, we must transition to a low-carbon economy. Many clean primary energy sources, such as solar panels and wind turbines, are being deployed and promise an abundant supply of clean electricity in the near future. The Alternative Fuels Laboratory (AFL) at McGill University is actively researching the use of recyclable metal fuels as a key enabling technology for a low-carbon society. Metal fuels, reduced using clean primary energy, have the highest energy density of any chemical fuel and are stable solids, simplifying trade and transport. The chemical energy in metal fuels can be released by combustion with air to produce heat and motive/electrical power. This talk will overview the concept of metal fuels, and the various power system options, for applications on Earth and for space exploration. It will also touch on the combustion and reaction physics of metal fuels, including a discussion of how the PerWaves experiment, supported by both the European Space Agency and Canadian Space Agency, has advanced our understanding of the fundamentals of metal-fuel combustion.