

Beamed Energy Propulsion for Aeronautics, Micronautics* and Astronautics.

Dear Colleague,

American Institute of Beamed Energy Propulsion (AIBEP) is currently conducting a survey for 3-4 potential topics of discussion, which in case of substantial interest, could be further explored through on-line discussion groups and special workshops. In the past these topics were partially addressed at the International Symposium on Beamed Energy Propulsion (ISBEP), as referenced below, but except the topics on aeronautics rarely made a full session. We believe that underrepresentation of these subjects at ISBEP does not imply that they are of a minor importance.

Topic 1: Beamed Energy Propulsion for Aeronautics: Includes all applications of beamed energy propulsion for aircraft. Subjects include: direct propulsion, aircraft control, drag reduction for super/hypersonic flights, etc. Some exemplary references are given in the end of this message under REFERENCES section:

Topic 2: Beamed Energy Propulsion for Micronautics*: Nano-space is a new frontier and the least explored to date subject of BEP. Current revolution in nano-technology opens new opportunities for application of Beamed-Energy Propulsion for driving nano-vehicles, including principles, control, etc. See References.

Topic 3: Beamed Energy Propulsion for Astronautics: The applications of BEP for terrestrial launches, orbital transfers, station-keeping, etc. were well documented over all history of ISBEP. Less work was devoted to lunar propulsion and inter-planetary / interstellar missions. The offered sub-topics are:

a: BEP for moon exploration and

b: BEP for Interplanetary/stellar propulsion. See References.

If you have an interest in further discussion of listed topics, please, send a blank reply to this message with 1, 2, 3a, 3b (or combination) in the subject line. Thank you.

Please, feel free to forward this message to anyone, who you think might be interested in receiving it. Sincerely,

Andrew V. Pakhomov, AIBEP President,
Associate Professor, University of Alabama in Huntsville

=====

**"Micronautics" is a new term which I have to come up with in order to describe the navigation in micro(nano)-space: another great field of application for BEP. I have considered a possibility to call it "Nanonautics", in obvious connection with nano-science and nano-space, but the word sounded a bit stutteringly. My apologies if this term, Micronautics seems too awkward to you, I hope it carries quite certain meaning.
A.V. Pakhomov*

REFERENCES

Topic 1 (Aeronautics)

1. "Beamed-Propelled Microaircraft" – session at ISBEP 1, see ISBEP 1 Proceedings and references therein.
2. M. Shiho et al., Proposal for Environmental Observation System for Large Scale Gas Pipeline Networks Using Unmanned Airship, Proc. of ISBEP 2.
3. H. Horisawa, Ignition and Flameholding Characteristics of Laser Igniters in Supersonic Airstreams, Proc. of ISBEP 2.
4. T.S. Blackwell, Recent Demonstrations of Laser Power Beaming at DFRC and MSFC, Proc. of ISBEP 3.
5. A. Alden, et al., Some Recent Developments in Wireless Power Transmission to Micro Air Vehicles, Proc. of ISBEP 3.
6. T. Yabe, Prospect of Solar-Energy-Pumped-Laser-Driven Vehicles Powered by Water, Proc. of ISBEP 3.
7. T. Okita et al., Remote-Control of Laser-Driven Micro-Vehicles, Proc. of ISBEP 4.
8. "Airsprites" session at ISBEP 3; "Power Beaming for Thermal Stress and Drag Reduction" session at ISBEP 5, see the corresponding ISBEP Proceedings and references therein.

Topic 2 (Micronautics)

M. Shiho, Generation and Focusing of High Brightness Pulsed X-Rays: toward the X-ray Driven Micro-Ship, Proceedings of ISBEP 1.

Topic 3a (Astronautics: Lunar)

J.T. Kare, Vehicle and System Concepts for Laser Orbital Maneuvering and Interplanetary Propulsion, Proceedings of ISBEP 1.

J.T. Kare, et al., New Technology and Lunar Power Funding Option for Power Beaming Propulsion, Proceedings of ISBEP 3.

D.G. Johansen, Lunar Oxygen as Monopropellant, Proceedings of ISBEP 5.

Topic 3b (Astronautics: Interstellar)

1. "Beamed Energy for Interstellar Missions" – session at ISBEP 1, see ISBEP 1 Proceedings and references therein.
2. H. Horisawa, et al., Fundamental Study of a Relativistic Laser-Accelerated Plasma Thruster, Proceedings of ISBEP 1.
3. T. Kammash, Advanced Space Propulsion with Ultra-Fast Lasers, Proceedings of ISBEP 1.
4. A. Pakhomov, Problem of Relativistic Mirror, Proceedings of ISBEP 3.
5. H. Horisawa and I. Kimura, A Very-High-Specific-Impulse Relativistic Laser Thruster, Proceedings of ISBEP 5.

=====
 This message is addressed to advanced propulsion / propulsion / space science community at large, so if you received this message by mistake or wishing not to receive any messages from AIBEP, please, send blank reply with word "REMOVE" in the subject line. This distribution is used solely for announcements of American Institute of Beamed Energy Propulsion, Inc. © 2008 and related activities.
 For more info about the Institute and its activities, please, visit: www.aibep.org
 =====