

LA-UR-23-33278

Approved for public release; distribution is unlimited.

Title: CRADA LA12C10675 "Magneto Inertial Fusion Plasma Target Collaboration"

Author(s): Weber, Thomas
Trujillo, Sharon M.
Parks, Zachary Randolph

Intended for: Report

Issued: 2023-11-28



Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by Triad National Security, LLC for the National Nuclear Security Administration of U.S. Department of Energy under contract 89233218CNA00001. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.

LA-CP-16-20408

Los Alamos Controlled Publication, distribution is limited.

Title: CRADA LA12C10675 "Magneto Inertial Fusion Plasma Target Collaboration"

Author(s):
Trujillo, Sharon M.
Parks, Zachary Randolph
Weber, Thomas

Intended for: Report

Issued: 2016-08-08

OFFICIAL USE ONLY (OUO):

May be exempt from public release under the Freedom of Information Act
(5 U.S.C. 552), exemption number and category:
4--Commercial/Proprietary

Department of Energy review required before public release:
Name/Org: Trujillo, Sharon M./FCI-DO: RICHARD P. FEYNMAN CENTER FOR INNOVATION
Date: 2016-08-08
Guidance (if applicable):--

PROTECTED CRADA INFORMATION:

This report may contain Proprietary Information or Protected CRADA Information, which was produced on 2016-08-05 under CRADA No. "LA12C10675" and is not to be further disclosed for a period of five (5) years from the date it was produced except as expressly provided for in the CRADA.

Disclaimer:

Los Alamos National Laboratory, an affirmative action/equal opportunity employer, is operated by the Los Alamos National Security, LLC for the National Nuclear Security Administration of the U.S. Department of Energy under contract DE-AC52-06NA25396. By approving this article, the publisher recognizes that the U.S. Government retains nonexclusive, royalty-free license to publish or reproduce the published form of this contribution, or to allow others to do so, for U.S. Government purposes. Los Alamos National Laboratory requests that the publisher identify this article as work performed under the auspices of the U.S. Department of Energy. Los Alamos National Laboratory strongly supports academic freedom and a researcher's right to publish; as an institution, however, the Laboratory does not endorse the viewpoint of a publication or guarantee its technical correctness.



OFFICIAL USE ONLY

Cooperative Research and Development Agreement (CRADA) Final Report

In accordance with requirements set forth in DOE Order 483.1A Article X issued 11-6-2013, this document is the final CRADA report, including a list of Subject Inventions, to be forwarded to the Office of Science and Technical Information as part of the commitment to the public to demonstrate results of privately and/or federally funded research at Los Alamos National Laboratory

CRADA Number: LA12C10675

CRADA Title: Magneto Inertial Fusion Plasma Target Collaboration

Parties to the Agreement:

Los Alamos National Laboratory

General Fusion, Inc.

Nonproprietary Abstract of CRADA Work:

The Participant and Los Alamos National Laboratory (LANL) investigated possible paths for compression of plasma targets in Magneto Inertial Fusion (MIF) regimes. MIF involves the addition of a magnetic field to Inertial Fusion type plasma targets, potentially improving energy confinement. This technique could reduce the power, precision, and cost required to compress and heat plasma targets to fusion relevant conditions, leading to a lower cost path to a fusion energy source. MIF regimes are intermediate between magnetic fusion energy and inertial fusion energy approaches. LANL is pursuing the creation of a MIF compatible magnetized plasma target with long enough lifetime to compress it inside a solid cylindrical, flux-conserving shell. The Participant also requires a similar plasma target for use with a novel acoustic wave compression scheme.

Summary of Research Results:

All agreement tasks and deliverables were completed per the CRADA's statement of work.

Subject Inventions Listing: None

Report Date: 7/29/2015

OSTI Release Date: 7/29/2020

LANL Technical Contact: Thomas Weber

LANL Responsible Administrative Contact: Zachary Parks and Sharon Trujillo

OFFICIAL USE ONLY

The World's Greatest Science Protecting America

An Equal Opportunity Employer / Operated by Los Alamos National Security, LLC for DOE/NNSA