Report March 19, 2026

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Iran War Shows Urgency of pB11 Fusion

The new Iran War has grimly emphasized the urgency of developing and deploying hydrogen-boron fusion energy. As the second US military action in two months against an oil-producing country, the new war is the latest reminder, if any are still needed, that oil and gas are at the heart of most of the wars of the 21st century. The 40% rise in oil prices since the war began, and the repercussions of that rise for the global economy, are further demonstrations of the central role that petroleum plays in world finance. Already, the price increase is sucking two trillion dollars out of the global economy each year.

This huge flow goes from the many to the very few who own the major oil companies and the giant financial institutions that are tied to their fates. Donald Trump himself admitted as much in saying that "when oil prices go up, we make a lot of money". Clearly, the "we" referred to did not include the hundreds of millions paying more for oil, but did include the few thousand who own controlling interests in the big oil companies.

An oil tanker burning in the Strait of Hormuz

Even if Trump decides he favors lower oil prices to ease political losses in the mid-term elections, or to cut risks to the energy-hungry and financially shaky data-centers of some of his core donors, it's not at all clear how he could get them. The Iranian control of the Strait of Hormuz can't be broken militarily. As Phillip Radford of the Australian Strategic Policy Institute wrote on March 13, any attempt to capture the Iranian side of the Strait would be "Gallipoli times 10" and "It is inconceivable that the US would try."

Australians have cause to remember the Gallipoli campaign to capture the Dardanelles Strait into the Black Sea during World War I. A force of half a million soldiers, many from Australia, failed to capture the Strait from the Ottoman Empire in a year of fighting and retreated with nearly 10% of the soldiers dead and 40% wounded. Today, with drones having shifted the advantage in ground warfare decisively to the defending forces, no Marine force of 2,500 will wrest control of Hormuz, with terrain even more formidable than that at Gallipoli.

So what can permanently lower oil prices and end the endless cycle of oil wars? **Only the development of hydrogen-boron fusion.** Because of their higher capital expense, solar and wind power can't possibly be increased fast enough to affect oil prices in this decade and, as we've explained elsewhere, they can't threaten fossil fuels' role as base-load power. But with adequate funding, the first working hydrogen-boron fusion generators could be rolling down assembly lines in 2030. The certainty of a rapid, cheaper replacement of oil and gas will send prices plummeting as producers scramble to pump as much as they can before their products become nearly worthless. Fusion energy can help precipitate the largest transfer of wealth from the few to the many in history.

We'll have more in future reports about how that might play out in detail. In the meantime, how can we help change reality today? One way is described in our next news item.

LPPFusion Joins American Sustainable Business Network

Individuals acting on their own, or an individual small business, can't, in most situations, do a lot to alter public policy or public opinion that affects policies. Only by working together can we affect events. For several years, LPPFusion has been a member of the Fusion Industry Association, which has effectively represented fusion in governmental circles, helping, among other things, to shape rational regulation of fusion energy. Now, to work together with a large number of other businesses broadly aligned with our goals, we've joined the American Sustainability Business Network (ASBN).

The ASBN, founded in 2022, seeks "to inform, connect, mobilize, and amplify the collective voice of sustainable business leaders…driving the shift toward a just and regenerative economy that benefits all stakeholders." With more than 200,000 members and affiliates, ASBN has become a source of information for major media outlets, as well as an influential lobbying organization.

We believe that through the ASBN we can more effectively spread the word that hydrogen-boron fusion is critical to a sustainable economy and to resolving the multiple crises facing humanity today. Our new membership is part of a general expansion in our public outreach that we are carrying out. You'll be hearing more about it soon.

First Steps in Reassembly of FF-2B

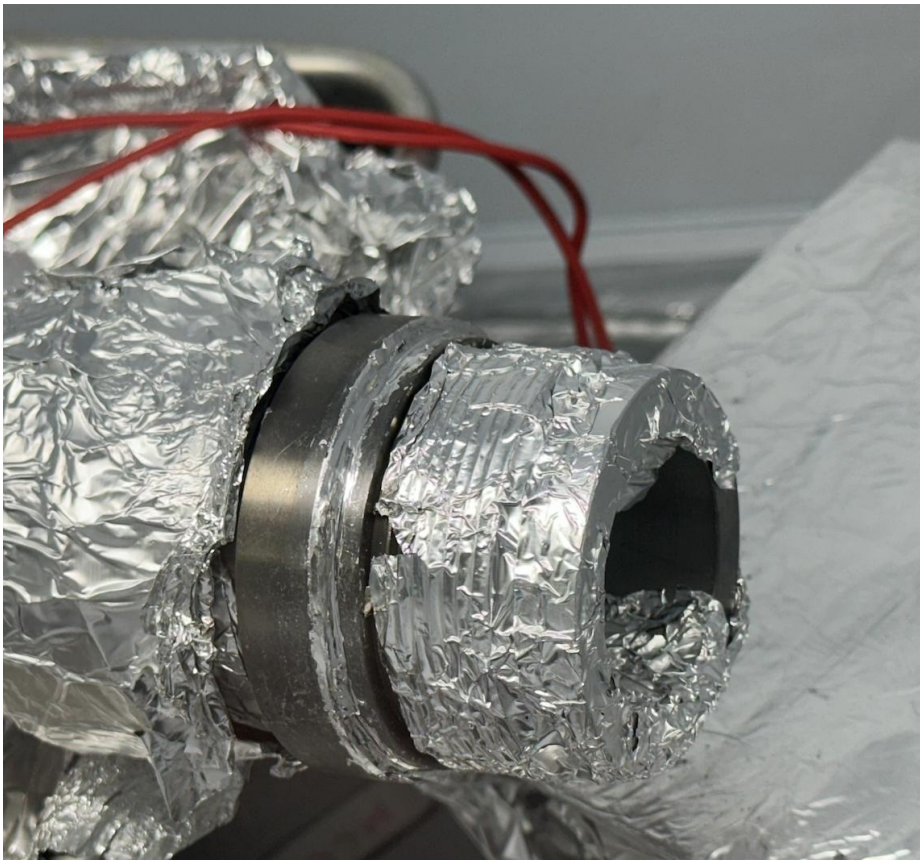
We've taken the first step in reassembling our FF-2B experimental fusion device with its new anode. We're applying indium to both the anode, shown here and to the base plate that it attaches to. Indium is vital to decreasing the surface resistance that occurs when two metal pieces meet. No matter how smooth their surfaces are, microscopic hills and valleys mean that only a tiny fraction of the total surface area is actually in contact, greatly increasing resistance.

A standard practice to overcome this problem is to use indium between the surfaces. Indium is a very soft, highly conductive material and molds itself at a microscopic level to metal surfaces. In addition, under pressure, its grain structure changes, making it much stronger, so it does not squeeze out from between the surfaces like toothpaste.

When used with beryllium, special care has to be taken to break up the insulating beryllium oxide layer that forms on the metal. For that, we use an ultrasonic soldering iron that breaks up the beryllium oxide layer into nanoparticles that are dispersed into the indium. If this is done while the indium is heated to close to 130 C, the

indium will bond with the beryllium, forming the needed microohm resistance. We can check this resistance with our microohm meter.

The next step will be to take down and clean the cathode.



Indium layer (silver ring between areas covered with aluminum foil) goes onto the new anode to minimize electrical resistance

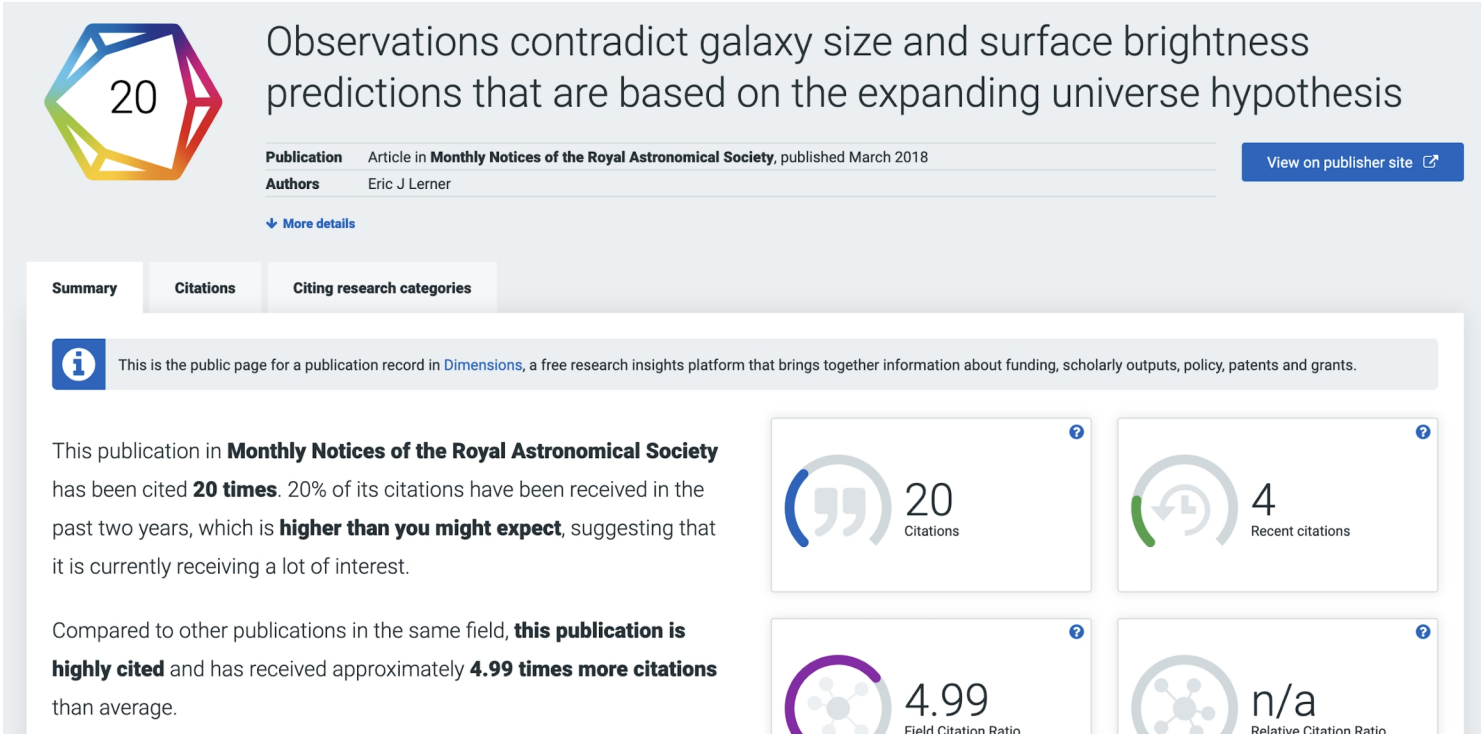
What Our Peers Think of Our Work

A number of investors have asked us what our scientific peers think of our work. Here are some objective measures showing that our peers consider us to be leaders in the field.

One simple measure is invited presentations. At conferences, organizers invite the leading researchers to give longer presentations on their work—generally 25 minutes instead of the standard 12-15 minutes. LPPFusion Chief Scientist has been among the invited speakers for four of the last five years at the International Conference on Plasma Science and Applications, the main conference for researchers studying the Dense Plasma Focus device. He was among the invited speakers every year for the past three years at the International Workshop on Proton Boron Fusion, the main conference for pB11 researchers. So in both our areas of work, we're recognized as leaders.

A broader measure of interest within the larger field of fusion research and the study of plasma is the number of citations our papers receive. Researchers cite as references the papers that they rely on as authoritative in a field. Our papers are cited far more than average. The two papers we published in 2023 have been cited 9 and 13 times, not counting our own citations. Our 2017 paper, first announcing our record high temperatures, has been cited 17

times and the one we published back in 2011, first laying out our research program, has been cited 27 times. For comparison, the average paper published in the journals we published in, Physics of Plasma and Journal for Fusion Energy, got only 2 citations.

While the work of Lerner and his colleagues on cosmology and astrophysics has stirred controversy on the internet, it has also been widely cited. His 2018 paper in the Monthly Notices of the Royal Astronomical Society, the oldest astronomy journal in the world, which showed evidence that the universe is not expanding, has been cited 20 times in peer-reviewed journals, far more than the average of 4.8 citations for that journal. None of the citing papers were attempts to refute the conclusions of the MNRAS paper.

Thus, by any objective measure, our peers hold our work in high esteem.