



Press release

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Max Planck Institute for Plasma Physics signs cooperation agreement with German fusion start-up Proxima Fusion

The Max Planck Institute for Plasma Physics (IPP) will work with the start-up Proxima Fusion, the first spin-out company in the history of the IPP, to further develop the stellarator concept. The Munich-based company intends to design a nuclear fusion power plant based on IPP research. A corresponding cooperation agreement has now been signed.

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Proxima Fusion, which launched at the beginning of 2023, was founded by a team which includes six former IPP scientists. Based in Munich the company's goal is to develop a nuclear fusion power plant based on the stellarator concept. With this cooperation, Proxima Fusion will primarily advance technological approaches, while IPP will contribute its know-how as the world's leading institute in stellarator physics.



Prof. Sibylle Günter, Scientific Director of IPP and Dr Francesco Sciortino, co-founder and CEO of Proxima Fusion sign the cooperation agreement. (Photo: MPI for Plasma Physics / Elisabeth Jaletzke)

The Max Planck Institute for Plasma Physics is the only institution in the world that carries out research on both essential concepts of magnetic confinement fusion with the help of large-scale experiments: in Garching near Munich IPP operates the ASDEX Upgrade tokamak, and in Greifswald the Wendelstein 7-X stellarator. What both have in common is that they generate plasmas with temperatures of millions of degrees Celsius, which are enclosed in magnetic fields without contact. Researchers have already been able to achieve essential plasma properties on tokamaks for later energy generation through nuclear fusion. Because of their more complex design, however, highly developed stellarators have only been available for a few years. The advantage of stellarators is that they can be operated continuously, unlike pulsed tokamaks, and with better plasma stability properties.

Wendelstein 7-X at IPP in Greifswald is the world's most modern and powerful stellarator experiment. In February, it succeeded for the first time in generating a high-energy plasma that lasted for eight minutes. The facility is designed to generate plasma discharges of up to 30 minutes in the coming years. Leading scientists are also working in the field of stellarator optimisation at IPP's Stellarator Theory Division in Greifswald.

"With our research, we want to further develop stellarators towards application maturity. With Proxima Fusion's technological focus, we see great synergies in a collaboration and look forward to working together in a public-private partnership," says Prof. Sibylle Günter, Scientific Director of IPP.

The importance of the Institute's know-how on the way to a fusion power plant is also shown by the interest of other companies: The IPP has also signed a cooperation agreement with the US company Commonwealth Fusion Systems and shared Letters of Intent for a possible cooperation with the start-ups Gauss Fusion and Type One Energy.

About Max Planck Institute for Plasma Physics

The research conducted at the Max Planck Institute for Plasma Physics (IPP) in Germany (locations: Garching near Munich and Greifswald) is researching the physical foundations for a fusion power plant that will generate energy from the fusion of light atomic nuclei. IPP's research is part of the European fusion program. With its workforce of approximately 1,100, IPP is one of the largest fusion research centres in Europe.

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