MIP: PARADIM at Cornell University, DMR-1539918

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World-Record High Pressure Floating Zone Crystal Growth

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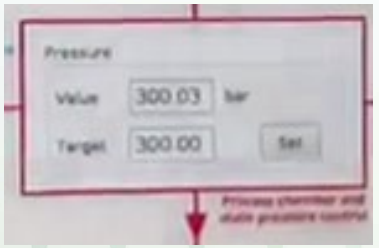
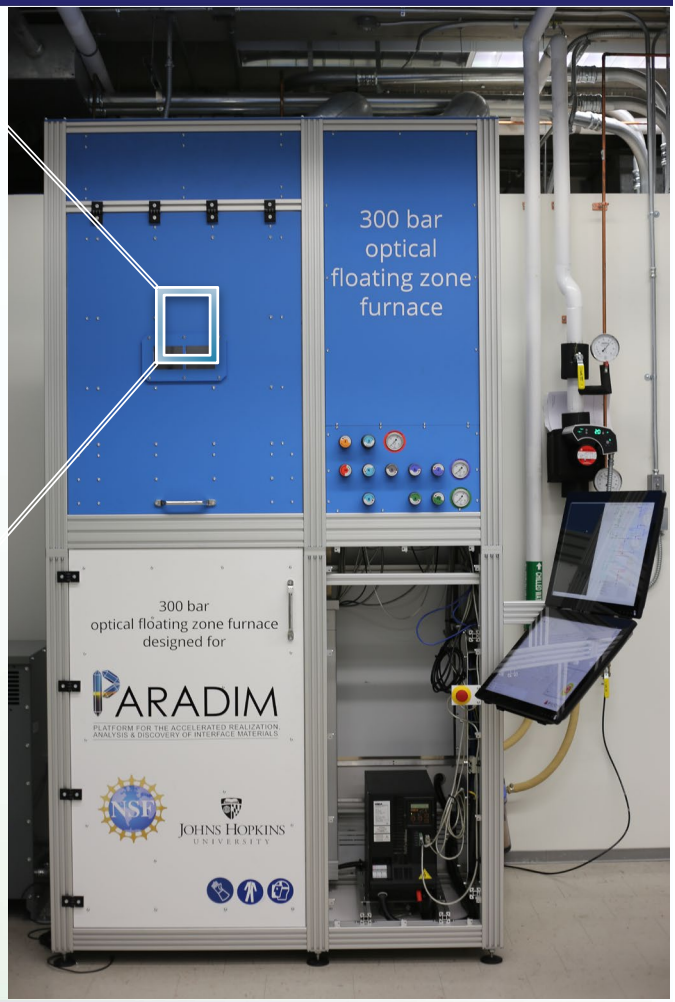
A new world record for highest pressure of a floating zone crystal growth, at 300 atmospheres, twice the previous record, was achieved by PARADIM staff in the United States in collaboration with our industry partner SciDre.

Under these conditions, most gases are "supercritical," *i.e.*, there is no distinction between the liquid and gas phases, and the fluid has a density of $^1/_3$ to $^1/_2$ that of the cryogenic liquid; this is a new frontier in the synthesis (and discovery!) of materials for the next generation of electronics.

The development of this technology enables the improvement of existing electronic materials and the discovery of new electronic materials that have never before been made in a form suitable for use in device applications.

It was made possible by the NSF MIP's commitment to significant investment in unique infrastructure and capabilities and is available free to U.S.A. users through 2-page proposals.





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