

Divertor Component Testing

Topic Area:

Partner	Company
Oak Ridge National Laboratory	Commonwealth Fusion Systems
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Project Summary:

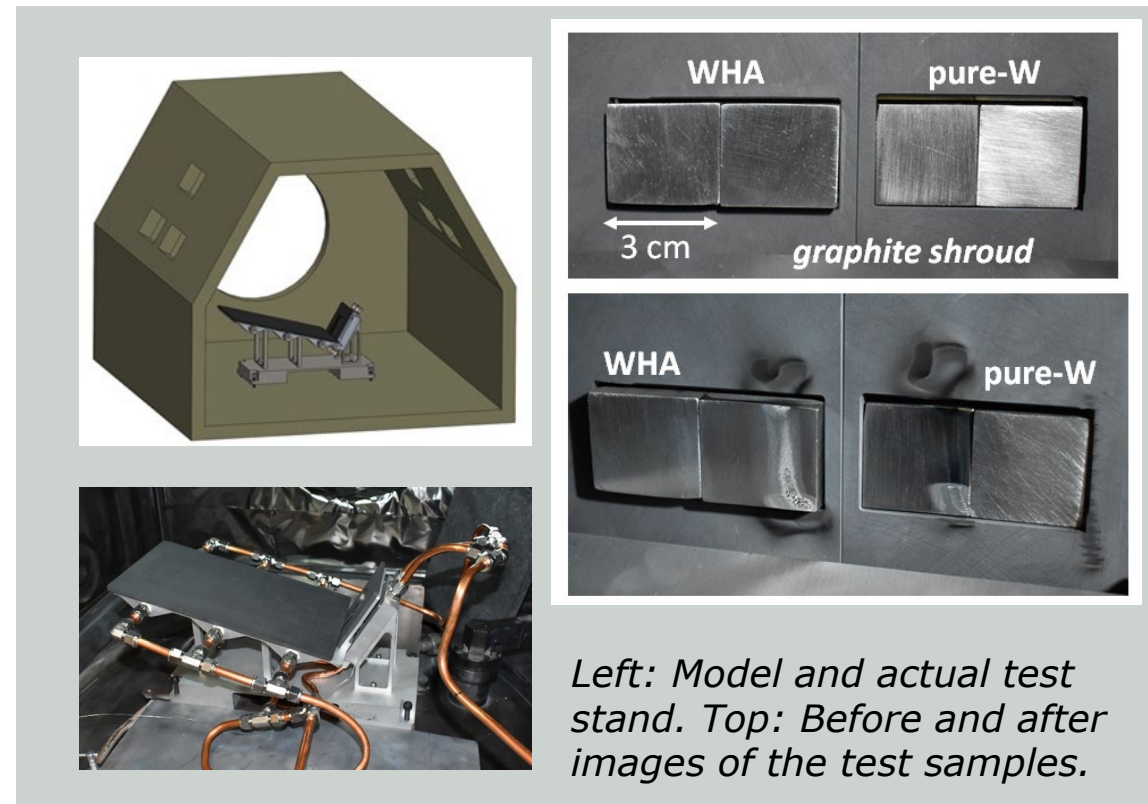
Execute high heat flux testing of the base material being considered for SPARC at representative loads.

Fusion Impact:

Qualified the use of tungsten heavy alloy (WHA) - 97% W, 2% Ni, 1% Fe by weight, for use in tokamaks under higher heat fluxes than previously assessed and documented failure mechanisms relative to pure tungsten.

Business/Market Impact:

Potential cost savings to future devices as tungsten heavy alloy has significantly lower machining cost relative to pure tungsten. Material properties also enable larger components, thus reducing part count.



Left: Model and actual test stand. Top: Before and after images of the test samples.

Period of Performance:	Federal Share:	Cost Share:
3/2020 - 3/2021	\$159,727	\$40,000