

Abstract Submitted
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The XENON1T Cryogenic System¹ YUN ZHANG, Columbia Univ,
XENON COLLABORATION COLLABORATION — The XENON1T experiment,
currently under construction at the Laboratori Nazionali del Gran Sasso in Italy,
aims at detecting dark matter weakly interacting massive particles using a dual-
phase (liquid/gas) xenon time projection chamber filled with 3300kg of liquid xenon.
The cryogenic system of the experiment maintains the liquid xenon target at a stable
temperature and allows high speed continuous xenon purification through the use
of efficient heat exchangers. The reliability of the system is achieved with two
redundant pulse tube refrigerators and an additional backup liquid nitrogen cooling
system. In this talk we will describe the XENON1T cryogenic system and present
results from commissioning performance tests.

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