

L'Europa è la carta
di accesso al Futuro

PO FSE ABRUZZO
2007»2013 | OBIETTIVO
"Competitività regionale
e occupazione"



Progetto Speciale Multiasse "Sistema Sapere e Crescita"
PO FSE Abruzzo 2007-2013
Piano degli Interventi 2012-2013

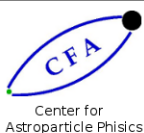
CFA LECTURE SERIES

The DarkSide Program for Direct Dark Matter Searches at LNGS

Cristiano Galbiati
Princeton University & INFN

The DarkSide-50 dark matter detector is a two-phase argon TPC installed at Laboratori Nazionali del Gran Sasso at the center of two nested veto detectors, a 30-tonne liquid scintillator neutron veto and a 1,000-tonne water Cherenkov muon veto. While operating in 2014 with a fill of argon extracted from the atmosphere, DarkSide-50 demonstrated its capability to operate in a background-free mode even in presence of the strong radioactive background due to the ^{39}Ar isotope produced by cosmic rays. In 2015 DarkSide was filled with 150 kg of argon extracted from deep underground reservoirs, which was demonstrated to be highly depleted in ^{39}Ar . The combination of these two successes allowed the collaboration to conceive DarkSide-20k, a 20-tonne depleted argon detector just proposed for installation at LNGS, with a start of operations forecast within 2020. DarkSide-20k will be followed after five years at LNGS by Argo, a 300-tonne dark matter detector also capable of performing a set of very high precision measurement of several solar neutrino sources.

AUGUST 4, 2015 – 11:30 AM
LNGS - "B. PONTECORVO" ROOM



Center For Astroparticle Physics **LNGS**
Via G. Acitelli, 67100 Assergi - AQ
<http://conoscenzabruzzo.lngs.infn.it/cfa/>