Contribution ID: **292** Type: **Poster**

Indirect Dark Matter searches with the ASTRI mini-array in the framework of the Cherenkov Telescope Array

Monday, 7 December 2015 18:36 (3 minutes)

Nowadays there are compelling evidences at several astrophysical scales for a large (˜85%), dark, non-baryonic and non-relativistic component of the matter density of the Universe. The quest to explain the nature of Dark Matter (DM) represents a paramount issue of modern fundamental physics and astrophysics. The non-baryonic DM is compatible with a gas of cold and weakly interacting massive particles (WIMPs) expected to have a mass in the range between O(10)GeV and O(100)TeV. One of the most promising approaches to shed light on WIMPs is to search for signatures of DM annihilation/decay into Standar Model particles from regions of the sky believed to be highly DM dominated, such as the Galactic Centre, clusters of galaxies, and dwarf spheroidal galaxies (dSphs) of the Milky Way. Among final DM annihilation/decay states, a flux of gamma rays tracing back to astrophysical sources is expected at energies up to the DM mass, which could be accessible by Imaging Atmospheric Cherenkov Telescopes (IACTs). In this contribution, we present prospects on indirect DM searches from different optimal targets in the TeV mass region with the ASTRI mini-array, a Cherenkov Telescope Array's (CTA) precursor, composed of nine ASTRI small-sized, dual-mirror telescopes and proposed to be installed at the CTA southern site.

Primary author: Dr LOMBARDI, Saverio (OAR-INAF, ASDC)

Co-authors: Dr STAMERRA, Antonio (OATO-INAF, SNS-Pisa); Dr BIGONGIARI, Ciro (OATO-INAF); ASTRI, Collaboration (http://www.brera.inaf.it/astri/); CTA, Consortium (http://www.cta-observatory.org); Dr BROCATO, Enzo (OAR-INAF); Dr DI PIERRO, Federico (OATO-INAF); Dr ANTONELLI, Lucio Angelo (OAR-INAF, ASDC); GIAMMARIA, Paola (Univaq L'Aquila, OAR-INAF)

Presenter: Dr LOMBARDI, Saverio (OAR-INAF, ASDC)

Session Classification: 05 - Dark matter