Brazilian Community Report on Dark Matter

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PERSPECTIVE...

Dark Matter in Brazil

1990-2000: ~ 10 papers
2000-2010: ~ 75 papers
2011-2015: ~ 191 papers
2016-2020: ~ 315 papers

2011-first dark matter section in the National Meeting on Particles and Fields!

Growing field in the country

Most papers are related to coupled dark energy models not focused on dark matter. This trend is changing.
Mass range of the dark matter candidates and the corresponding experiments with Brazilian involvement

*Active Groups

DARKSIDE (one group), CTA, CMS
Brazilians playing a role

Direct Detection: DARKSIDE (Ivone’s group - USP)

New phase Darkside-20k will feature 20 tons of LAr


 Brazilians playing a role

Indirect Detection: CTA (Vitor's group)

The major global observatory for very high energy gammaray astronomy over the next decade and beyond
DAMIC – UFRJ (J. Torres Machado)

*CMS – Novaes/Tomei @ IFT
Gil da Silveira @ UFRGS
Mercadante @ UFABC

CONNIE - @ CFET Angra dos Reis, CBPF, UFRJ

Light mediators

WIMPs

Light dark matter

FUNDING?

A community effort is needed!

Few people are engaged on dark matter experiments!

Schools, workshops, conferences are being organized in the country!