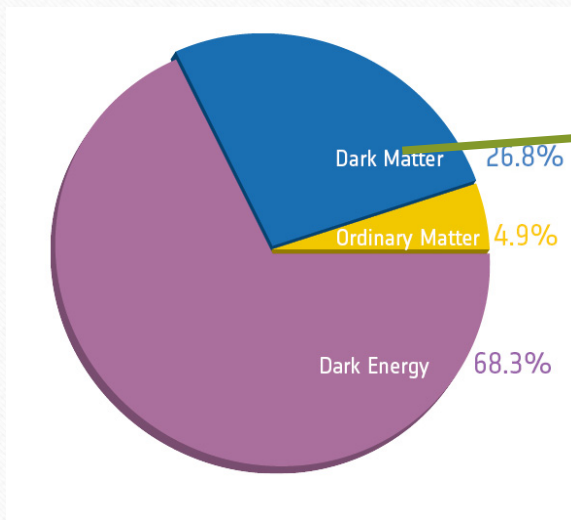


# Dark Matter

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Mystery and Myth

# Cosmic pie



Hep-ph community: Cold dark matter

# Cold dark matter

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- Cusped/cored problem
- Number of satellite galaxies
- Too big to fail problem

There are other communities that claim to have alternatives.

Has there been any evidence for DM?

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Has there been any evidence for DM?

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Lots of hints

# Disputed signal

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- DAMA signal ← bound from other direct dark matter experiments
  - Fermi 130 GeV line ← refuted by more statistics by the same experiment
  - 3.5 keV lint ← Hitomi
  - GeV excess from galaxy Center ← Point sources?

Bartels et al., strong support for the millisecond pulsar origin of GC GeV excess, PRL (2016)

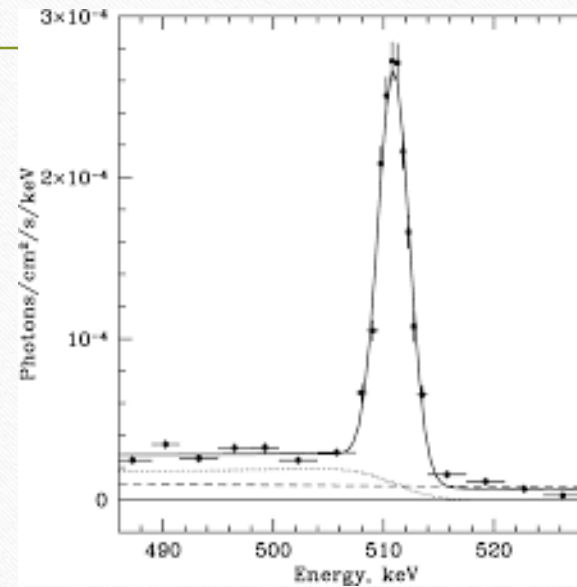
# How about these signals?

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- Integral 511 keV line
  
- AMS02+PAMELA

# How about these signals?

- Integral 511 keV line





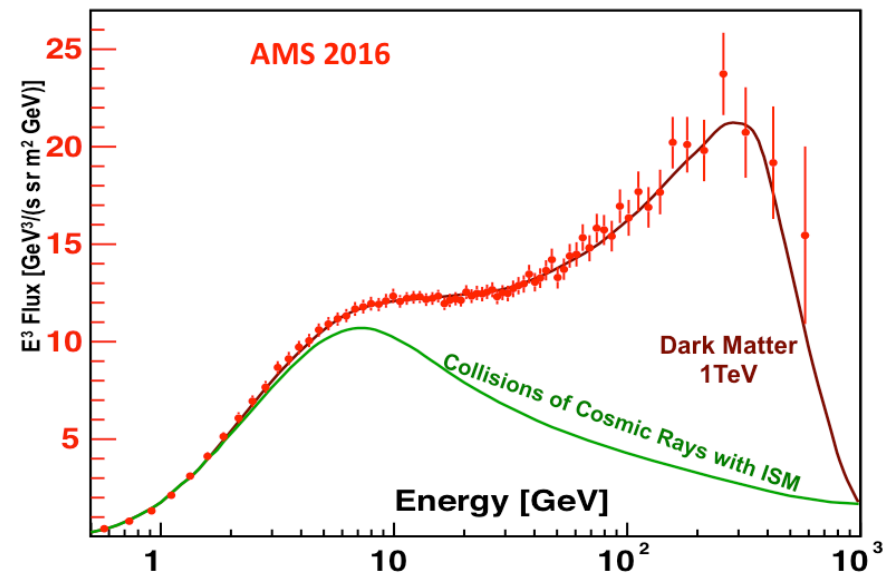
# How about these signals?

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- Integral 511 keV line
  
- AMS02+PAMELA

# How about these signals?

- AMS02+PAMELA



# SIGNAL KILLERS?

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- CMB data
- Dwarf galaxies