

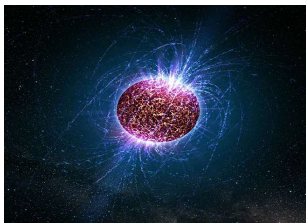
Round table session: Probing QCD in Astrophysics and Cosmology

Ahmed Ayad, Philipp Klose, Theo Motta

CRC TR-211 retreat Halberstadt

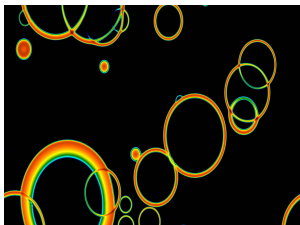
QCD and Astroph./Cosmology interact strongly

Neutron stars



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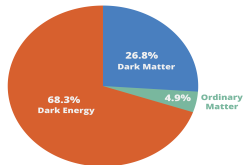
QCD Phase Transition?



arXiv:1705.01783

Dark Matter

Estimated matter-energy content of the Universe



ATLAS EXPERIMENT

CERN document server

- Intersection offers lots of interesting physics
- But: Fields can be very technical, knowledge often siloed

So what are our goals?

- 1 Let young scientists to ask simple (or technical) questions
- 2 Make QCD and Astro/Cosmology experts talk to each other

We want your input to guide discussion

- Many possible topics, but we do not want to dictate discussion
⇒ First, what do **you** want to talk about?

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Wed 14:30 - 16:00 (All): Collecting topics

- Q & A session with attendant PLs
- If interest: anonymous questions

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Thu 16:30 - 17:30 (YS only): Final session

- Open discussion on any left-over topics
- Final thoughts + feedback

We prepared three default topics

Wed 16:30 - 18:30 (YS only): Dark matter and QCD

- Various dark matter candidates, interplay with phase transitions

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- Equation of state, QCD phase diagram

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Thu 14:00 - 16:00 (All): Gravitational waves

- Possibility of first order phase transition, axion-like inflation
- If interest: Pulsar timing arrays

But these are only guidelines!

You should join if

- You are a project leader who wants to provide input
- You are a young scientist with burning questions
- You are a QCD/Cosmology/Astrophysics expert wanting to learn about the other side

Thank you for your attention!