

Brief introduction of IBS



<http://www.ibs.re.kr/>

A Korean-government-funded research institute established in 2011 under the Special Act on Establishment of and Support for International Science and Business Belts

Key Missions

- Conduct large-scale, long-term and group research in basic science
- Promote a global basic science network
- Foster the next generation of young talents

IBS plans to establish a total 50 research centers by 2021.

(average annual budget/center ~ 7M USD)

At present (2016), 26 centers were established:



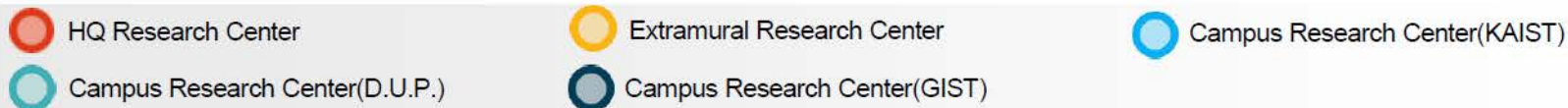
Among the 8 physics centers, 3 are for fundamental physics:

Center for Underground Physics (**CUP**)

Center for Axion and Precision Physics Research (**CAPP**)

Center for Theoretical Physics of the Universe (**CTPU**)

Research Centers



Seoul National Univ.



HQ

CUP CTPU



POSTECH



Sungkyunkwan Univ.



Korea Univ.



Yonsei Univ.



CAPP

KAIST



GIST



DIGST



UNIST

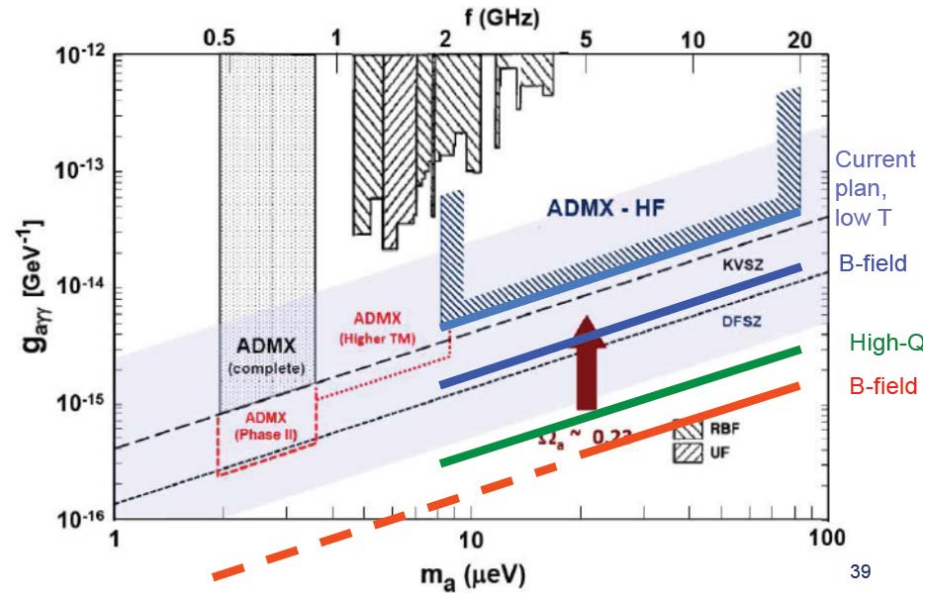
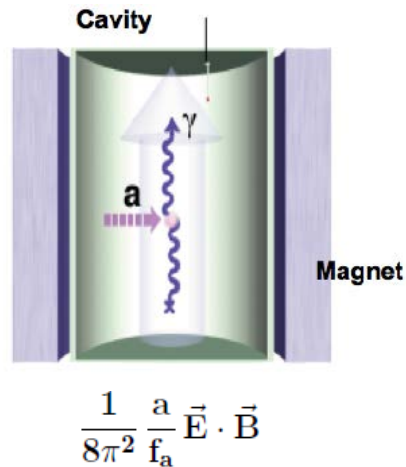


CAPP



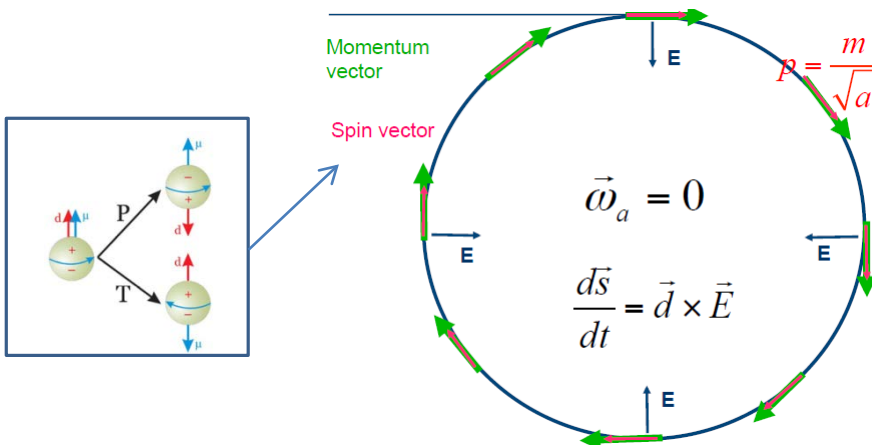
Y. Semertzidis

Axion dark matter



39

Storage ring EDM



Proton & deuteron EDMs

$$d_p < 7 \times 10^{-25} \Rightarrow 10^{-29} \text{ (e} \cdot \text{cm)}$$

No present bound on d_D

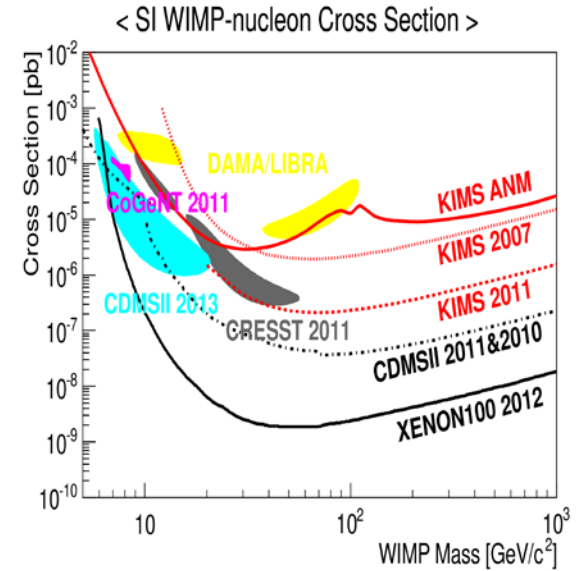
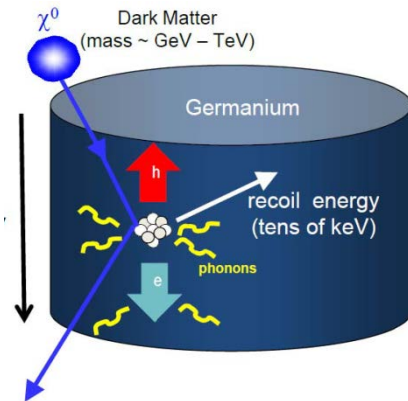
$$\Rightarrow 10^{-29} \text{ (e} \cdot \text{cm)}$$

CUP

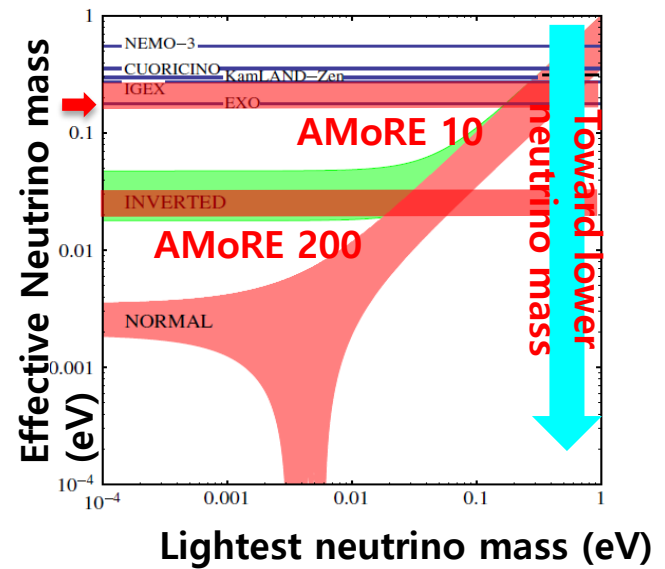
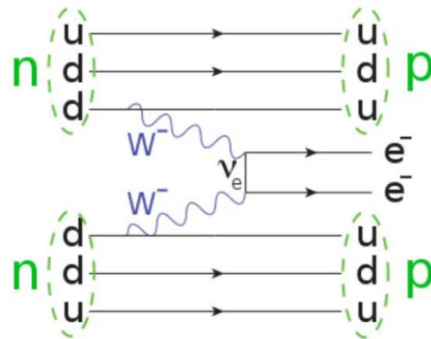


Y.D. Kim

KIMS for WIMP detection



AMoRE for ν -less $\beta\beta$ -decay



CTPU

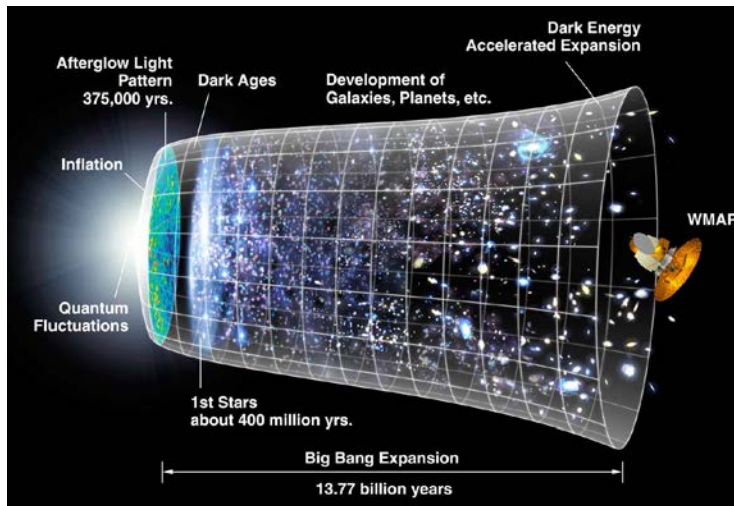
Particle Physics & Cosmology

6 faculties

about 15 post docs

about 10 students

4 administrative staffs



At CTPU, we study New Physics in Particle Physics and Cosmology.

Our emphasis is particularly on the Dark sector of the Universe.

(Dark matter physics,
Dark gauge interaction,
Collider searches of dark sector, ...)

Axion, Inflation, Dark matter, CMB,
Supersymmetry, New gauge
symmetry, Dark force, Collider
signals, Electroweak symmetry
breaking, Higgs boson, ...

Plan to build a similar size of group for “[Strings, Fields & Gravity](#)”, which will be led by another co-director.

Construction of new IBS Head Quarter Campus which will accommodate 15 Research Centers.



2016

Begin the 1st phase of construction

2017

Complete the 1st phase of construction

2018

Begin the 2nd phase of construction

2021

Complete construction

Center for Theoretical Physics of the Universe (CTPU)



**Thank you for your attention
& enjoy the time at Daejeon!**