12th Patras workshop

South Korea, Jeju Island

June 20 - 24, 2016

CAPP / IBS

June 20 - 24, 2016

colliding with any other interesting event?

please feel free to let me know!
(by July 15)

dominika@ibs.re.kr

CAPP / IBS: who we are

CAPP / IBS: where we are

Center for Axion and Precision Physics Research of the Institute for Basic Science

South Korea, Daejeon, KAIST campus

CAPP / IBS: what we do

experimental research

address two crucial questions of contemporary physics

What is the nature of dark matter?

What is the origin of matter-antimatter asymmetry?

CAPP / IBS: final frontier

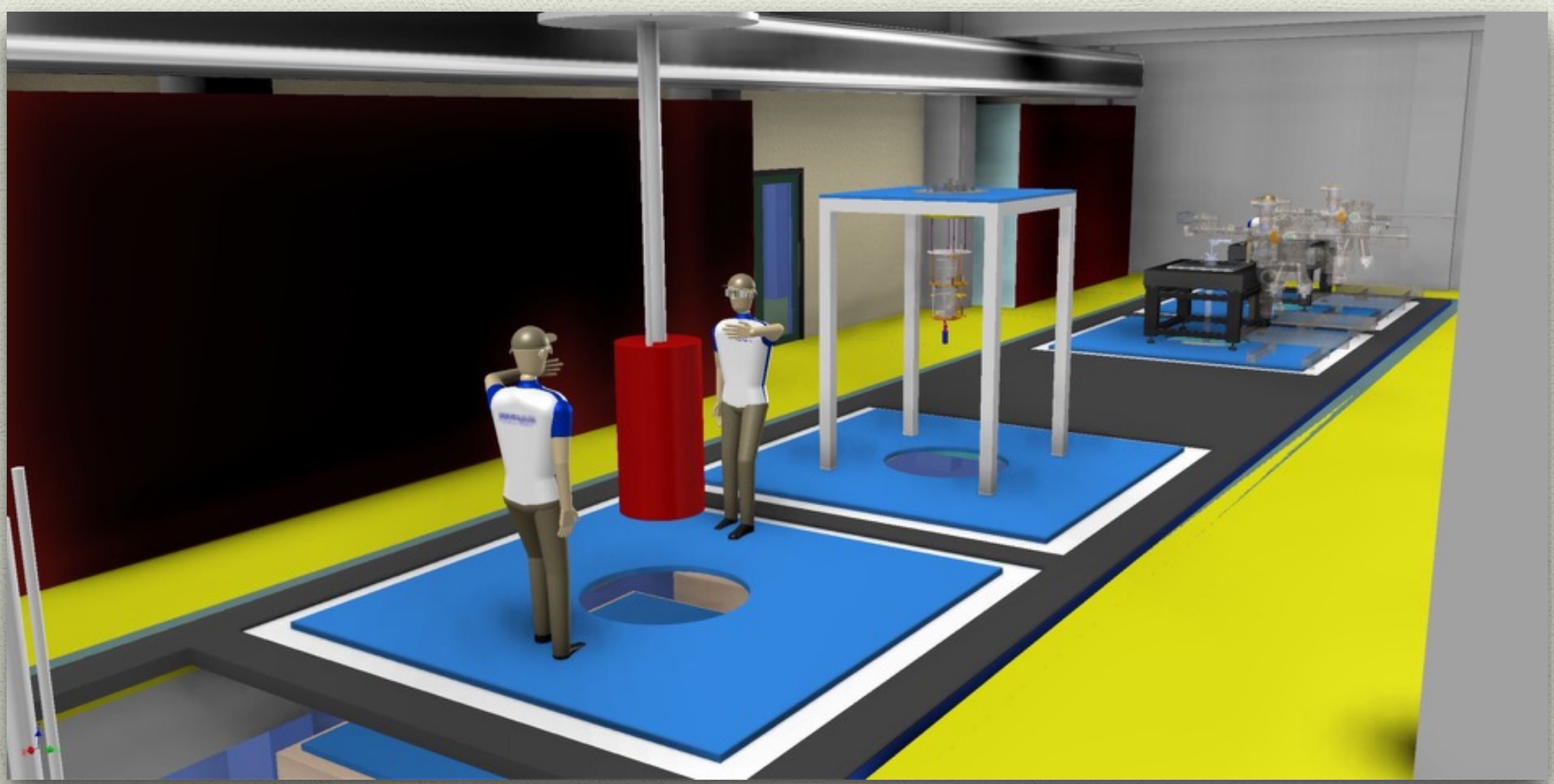
become the world-leading research institution for axion physics

ultimately: establish at CAPP a powerful axion search experiment
— CAPPASE —

discovery sensitivity:
orders of magnitude
better
than that any of the
currently leading
experiments worldwide

CAPPASE: discovering axion
in the most interesting
parameter area
– as the dark matter candidate –
even if its contribution
to the dark matter
is as low as 10% or less

CAPP / IBS: CAPPASE



CAPP / IBS: CULTASK

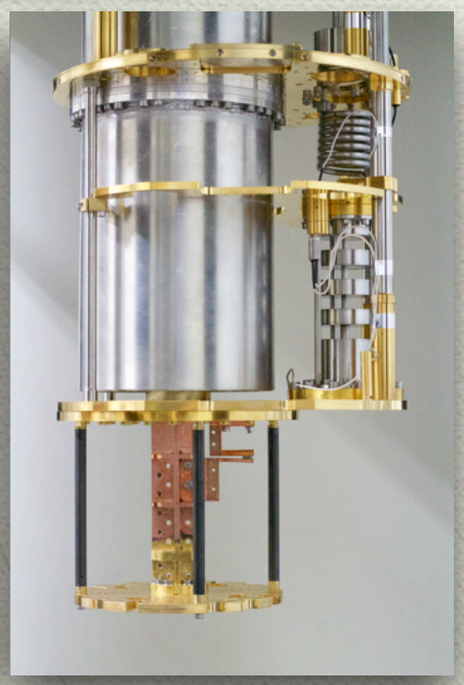
CAPP's very first axion experiment in Korea

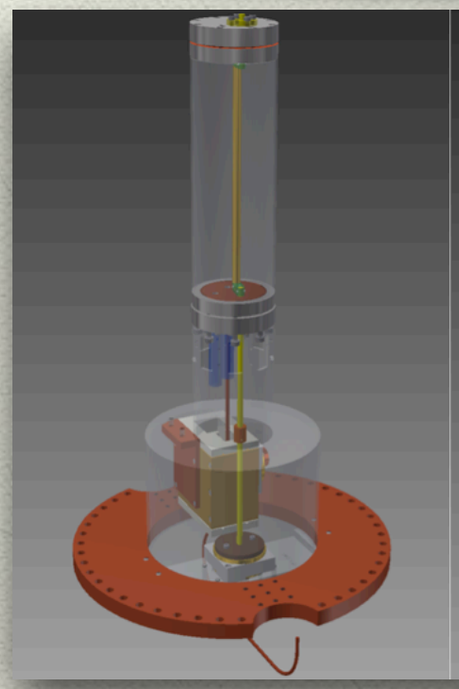
CAPP's Ultra Low Temperature Axion Search at KAIST — CULTASK

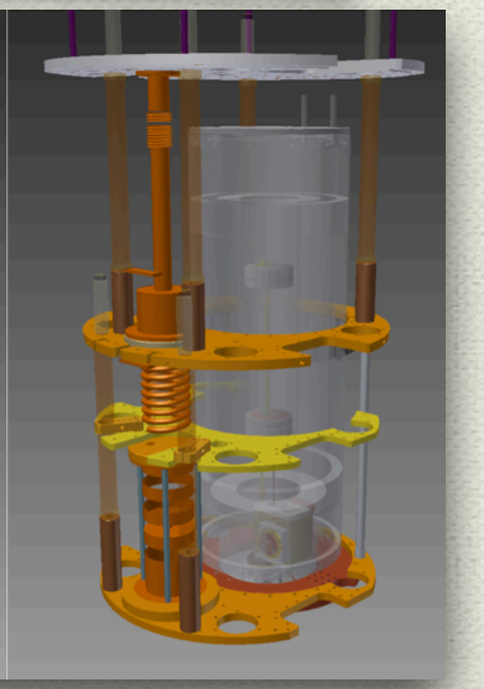
CAPP/IBS-KAIST collaboration

coming up this summer!

coldest dark matter experiment (< 100 mK) worldwide



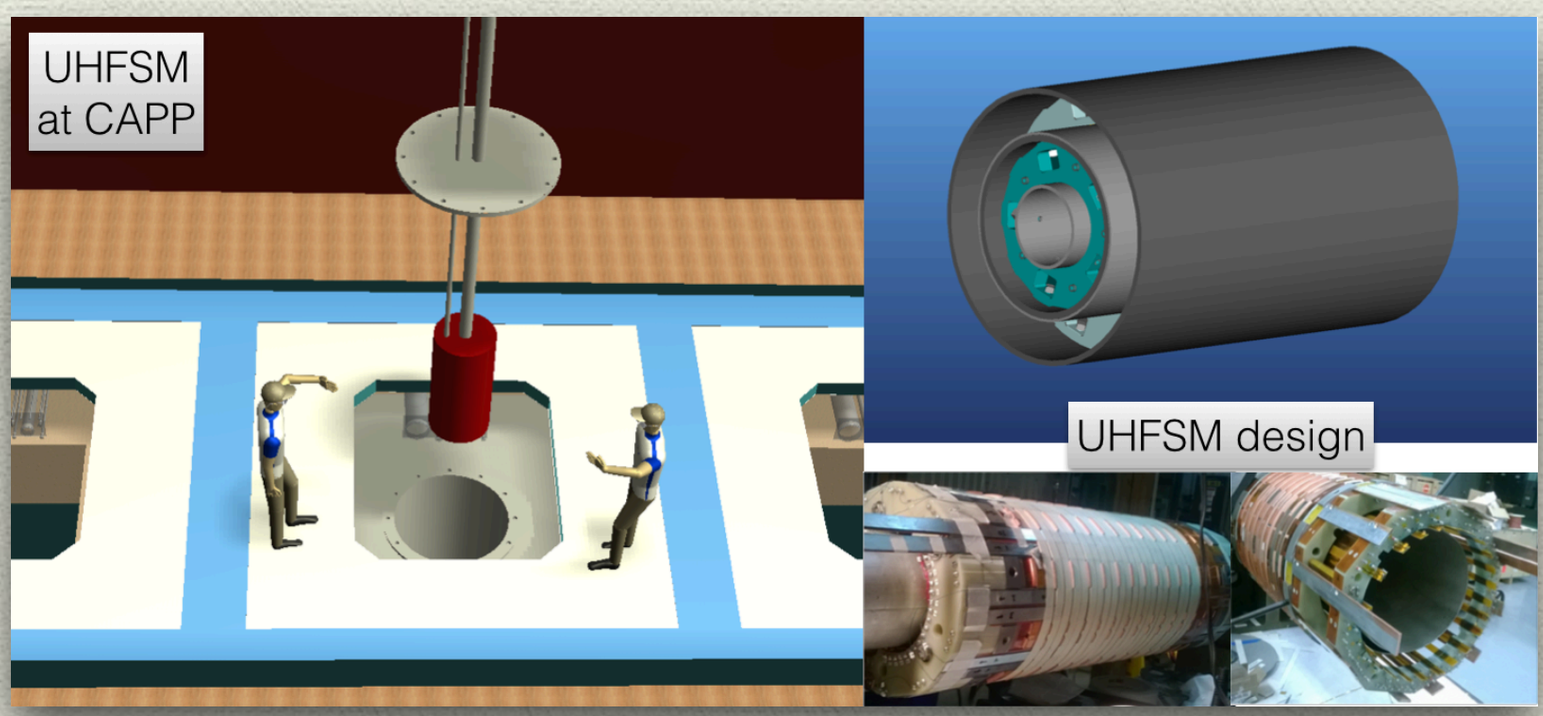


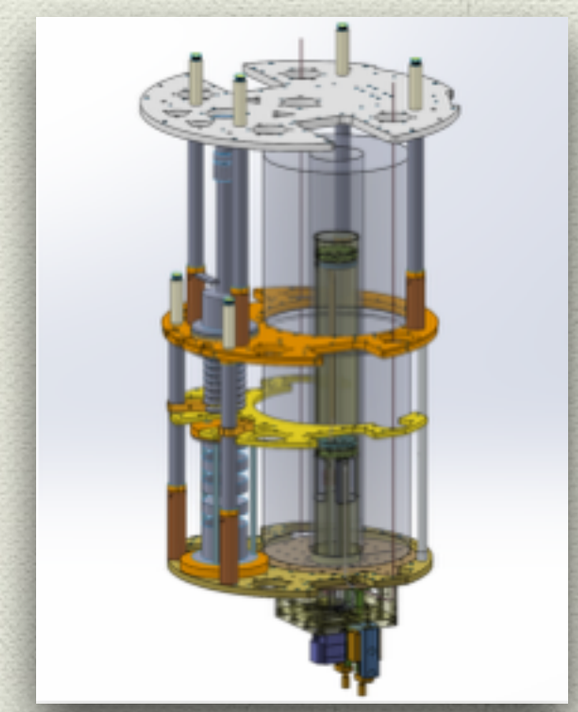


CAPP / IBS: all in all

CULTASK: test setup for our most advanced axion dark matter search

— CAPPASE —





CAPP / IBS: all in all

we also collaborate with
a number of
main axion search experiments worldwide

ADMX

CAST

ARIADNE

GNOME

.....

CAPP / IBS: asymmetry

early universe:
matter-antimatter asymmetry

CP-violation
beyond the Standard Model?
-> new physics !!

proton
electric dipole moment (EDM)

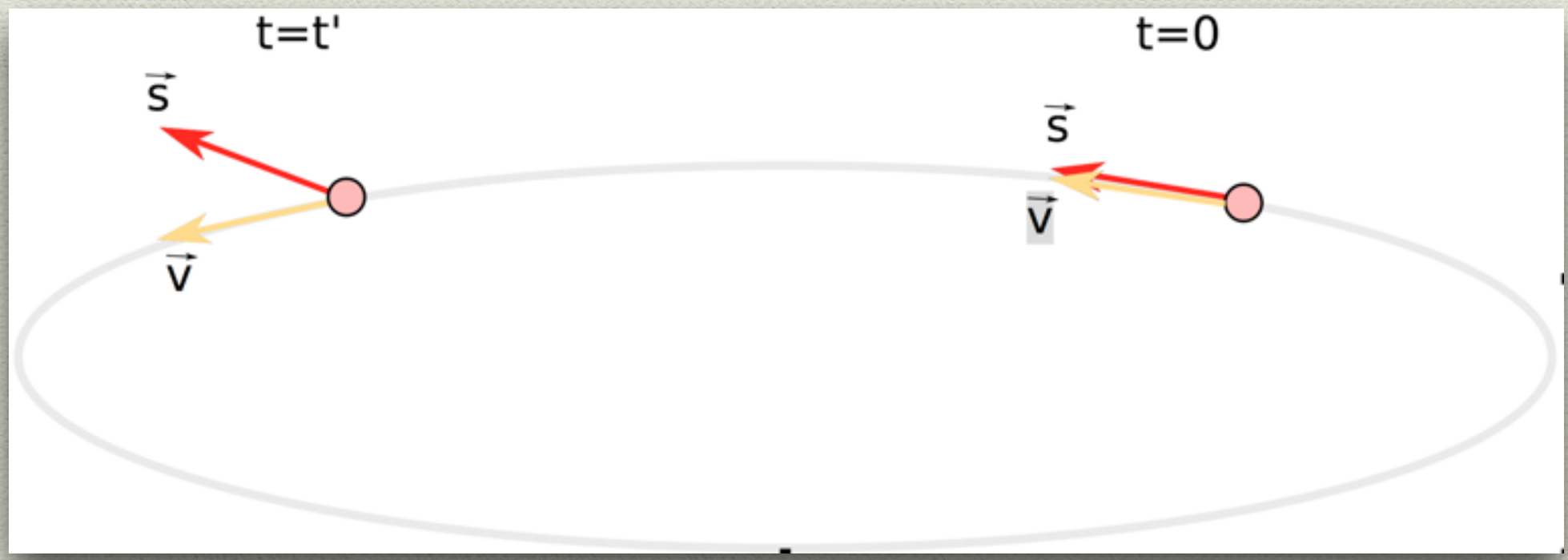
CAPP's leadership work on
proton EDM experiment

aiming at probing CP-violation
& physics beyond the standard Model
via proton EDM

CAPP / IBS: proton EDM

CAPP's new experimental approach: polarized proton beams in all-electric storage rings

study proton EDM: precision better than 10^{-29} e · cm (!!)

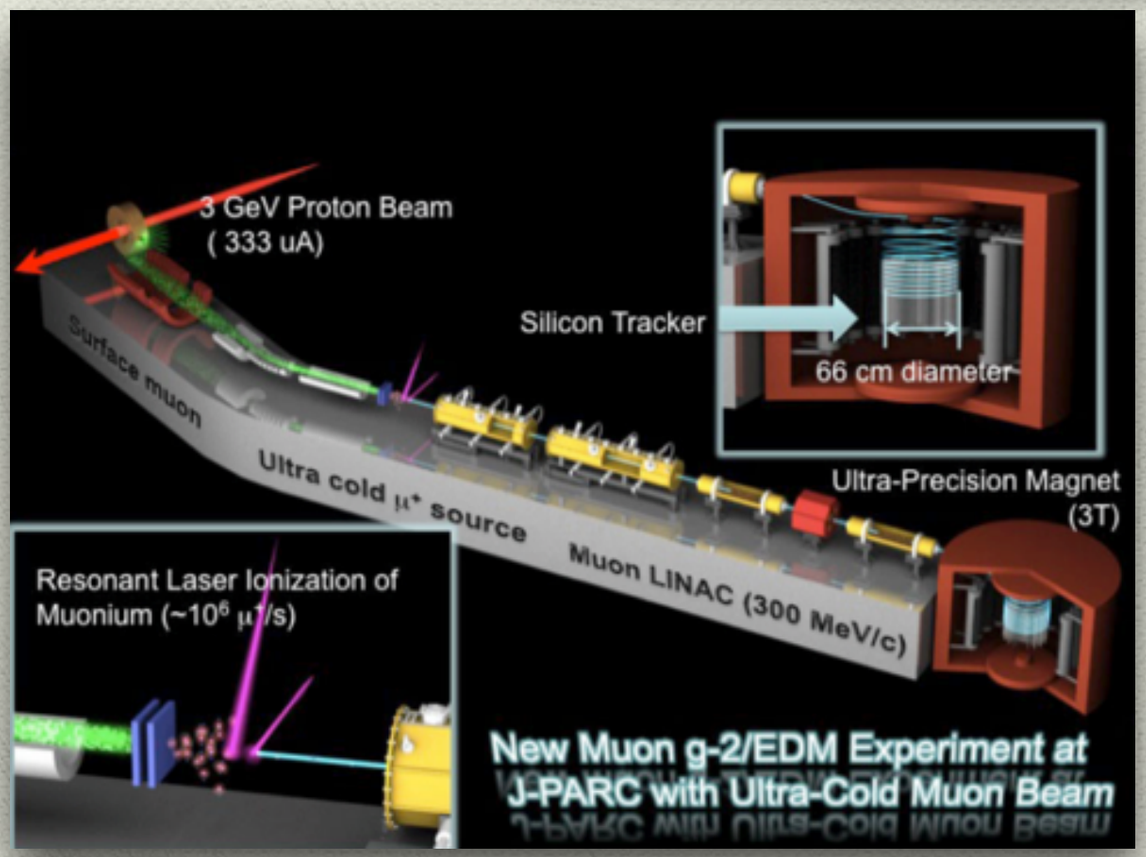


CAPP / IBS: g - 2

CAPP: yet another probe of physics beyond the Standard Model

high precision measurements of muon anomalous magnetic moment

current experimental value differs from Standard Model prediction by ca. 3.5 standard deviations already



CAPP / IBS: g - 2

CAPP: literally redesigning some of both hardware and software

↓

new muon g-2 experiment:
even higher precision than any of its predecessors

↓

on the verge of discovery of physics beyond the Standard Model (!)

CAPP / IBS: here we are

want to take part in reaching our goals?

contact us

visit us

join us

and YES:
we do have great work environment
&
South Korea is a great place to live!

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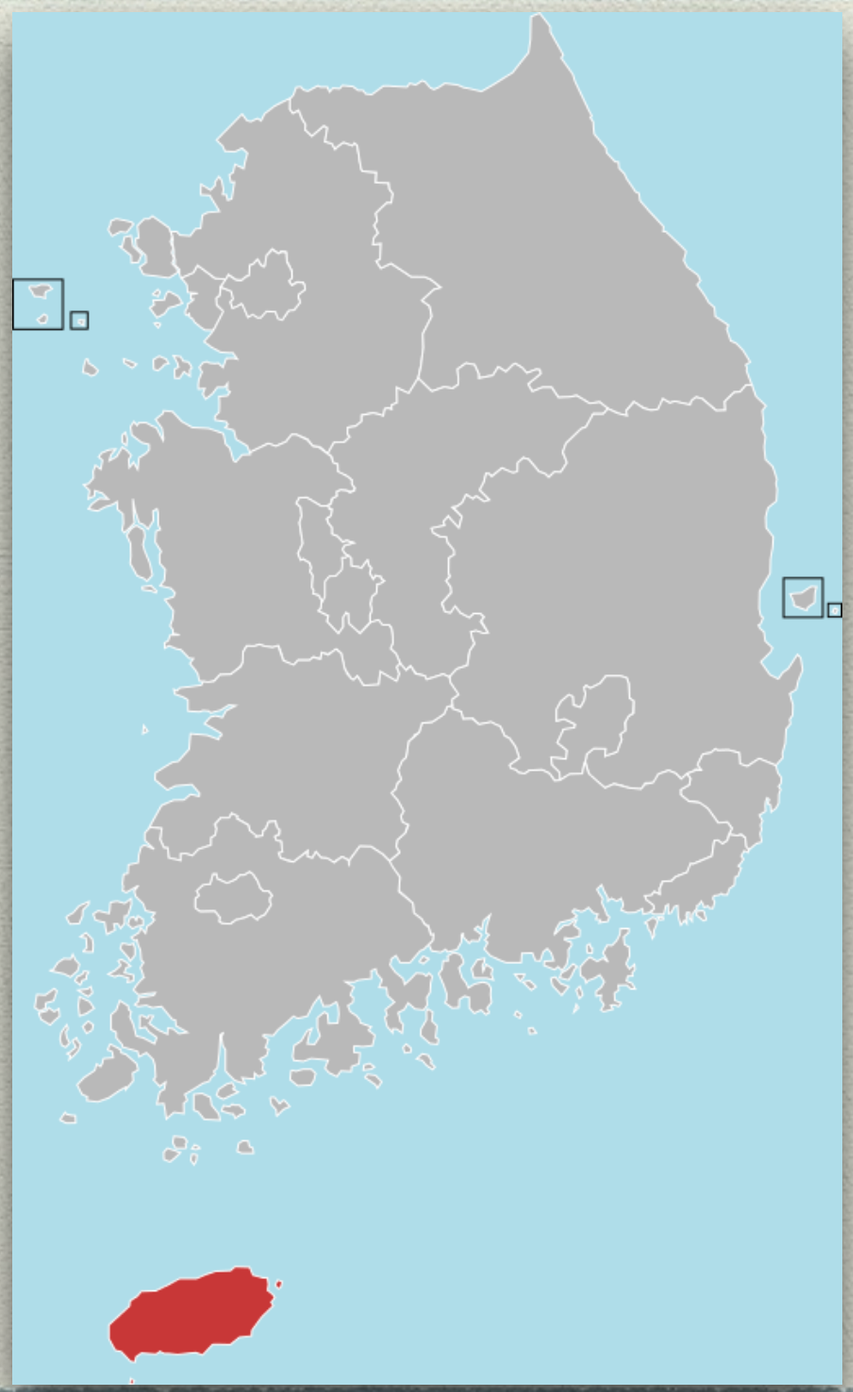
Jeju island: location



South Korea's largest island:
1849 km²
258 km circumference
up to 1950 m AMSL

Jeju: volcanic island

Jungmun tourism complex

The Suites Hotel: all in one

conference & banquet hall

guest rooms

on-site restaurants

free time?

free time?

within 1 km from the hotel:

- beach
- seashore hiking trail
- botanical garden
- waterfalls
- aquarium
- chocolate land
- teddy bear museum

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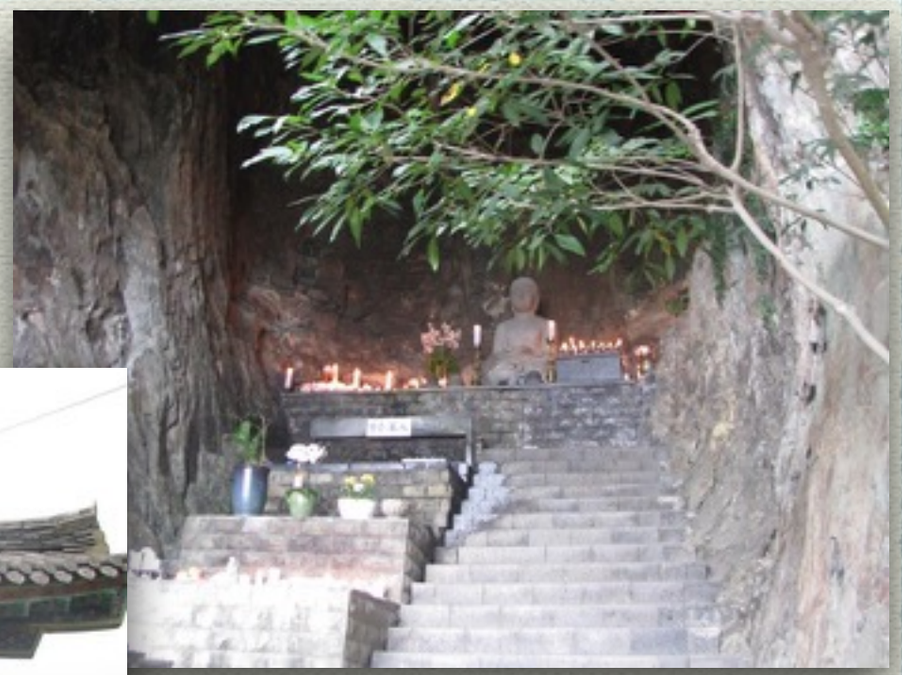
seashore hiking trail

botanical garden

waterfalls

excursion time? temples



excursion time? caves

excursion time? coastline

excursion time? more coastline

excursion time? more waterfalls

excursion time? Udo island

Jeju island: enjoy the nature!

Save the date!

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CAPP / IBS awaits you :)