

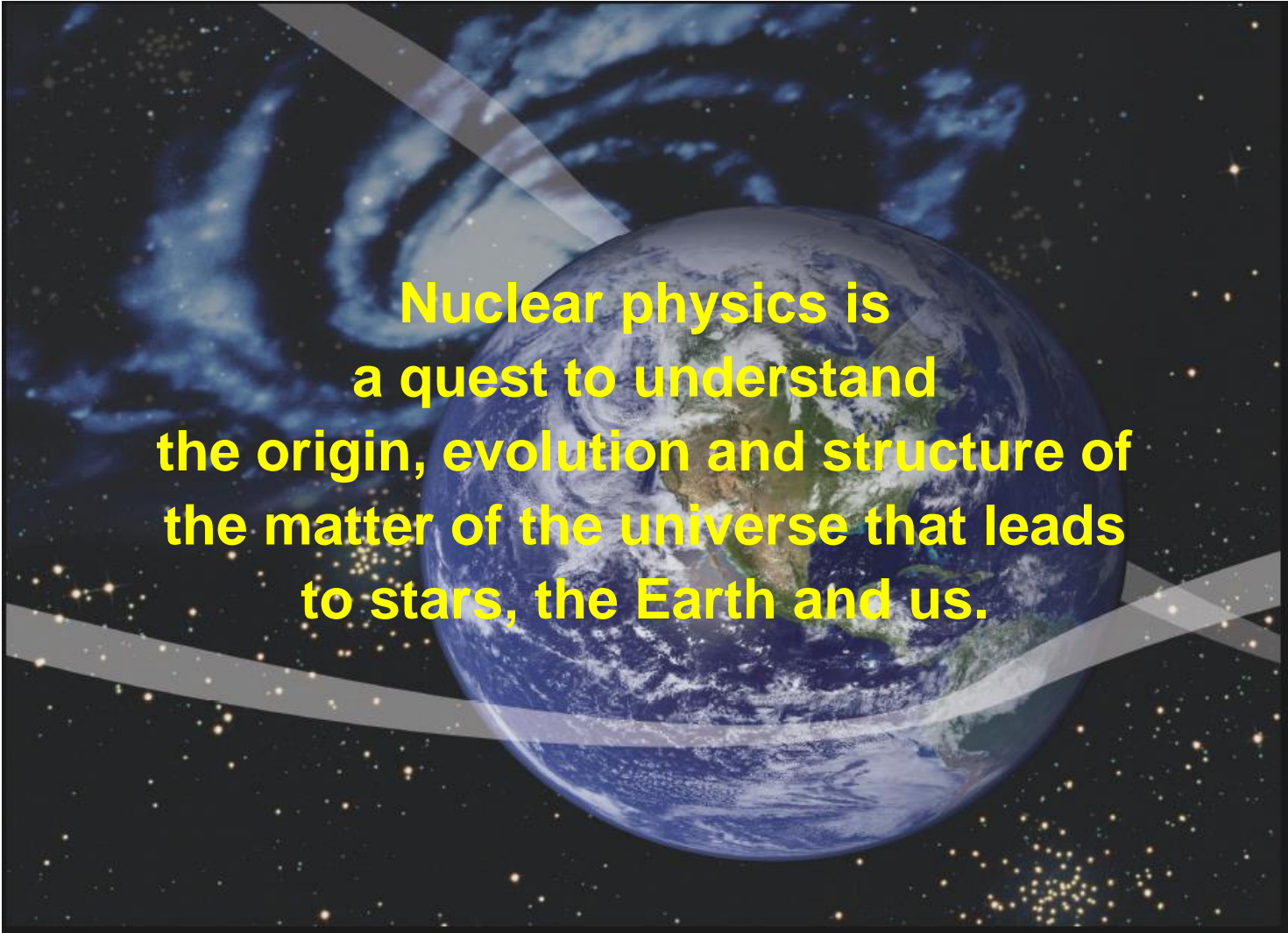


Science and Arts



Kwang-Souk Sim
Department of Physics, Korea University
1982 - 2011

Nuclear Physics



**Nuclear physics is
a quest to understand
the origin, evolution and structure of
the matter of the universe that leads
to stars, the Earth and us.**



Rutherford 1911

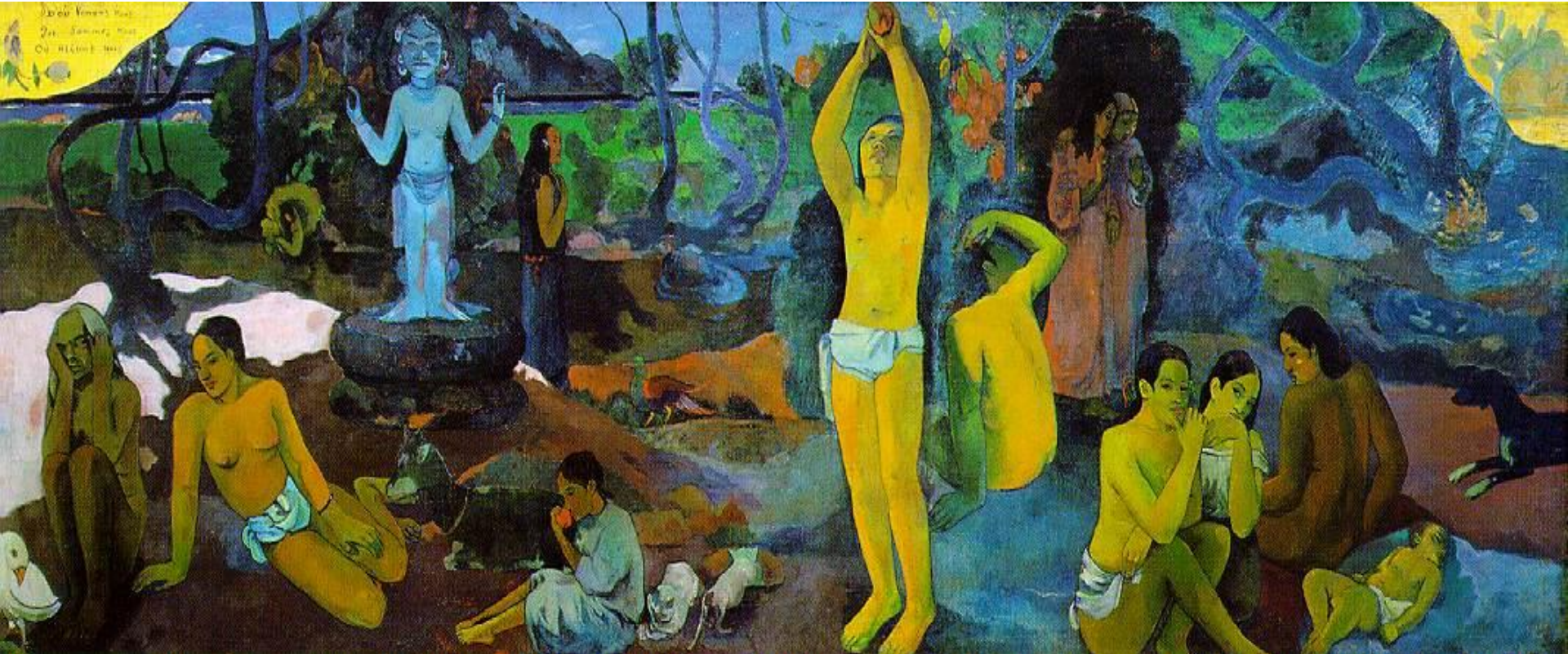


Looking back on the last three decades



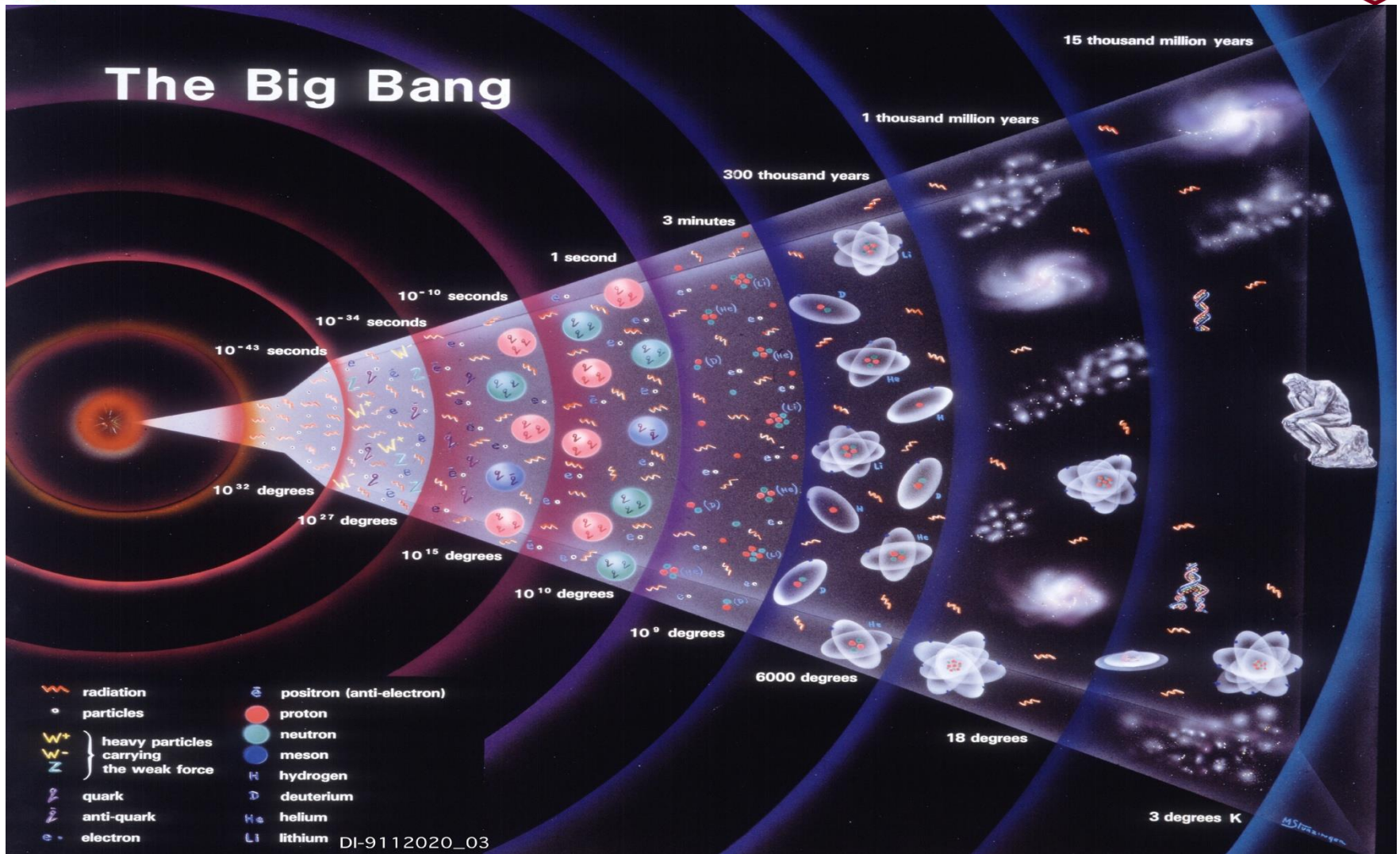
- **1980 - 1990 : Low energy heavy ions physics**
~ 100 MeV Tandem @ CEA & CRN
- **1990 – 2000 : Hypernuclear physics 12 GeV PS @ KEK**
- **1997 – present : Intermediate heavy ions physics**
2 GeV SIS @ GSI
- **1995 – present : Relativistic heavy ions physics**
 $\sqrt{s_{NN}} = 200 \text{ GeV}$ RHIC @ BNL
- **1997 – present : pp collisions $\sqrt{s} = 7 \text{ TeV}$ LHC @ CERN**
- **1997 – present : Relativistic heavy ions physics**
 $\sqrt{s_{NN}} = 2.76 \text{ TeV}$ LHC @ CERN

Where do we come from? What are we? Where are we going?

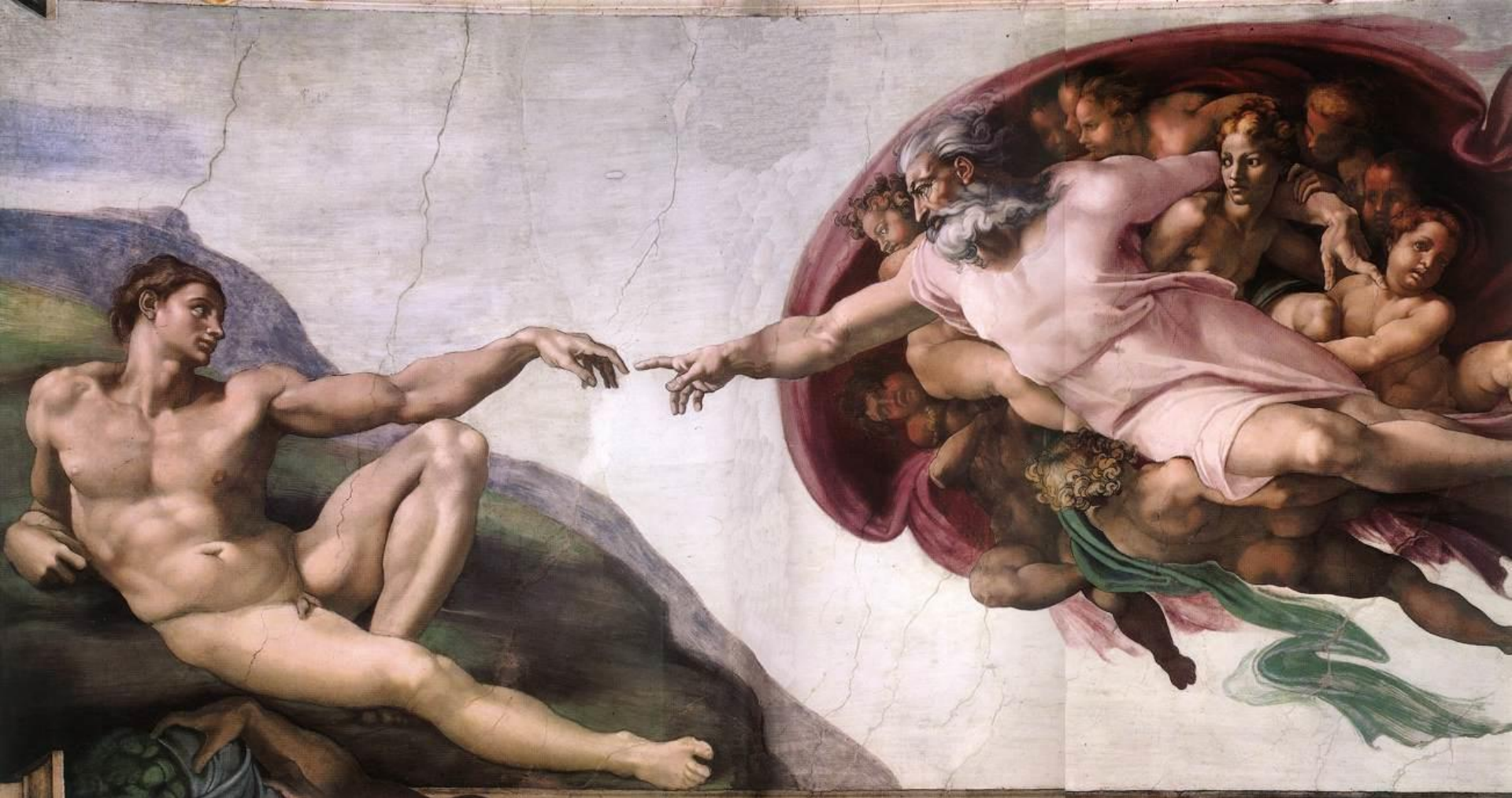


- Paul Gauguin -

Where does the universe come from? What is the universe made of? Where is the universe going?



The Creation of Adam



MAXWELL'S RAINBOW

- God said : Let there be light, there was light.



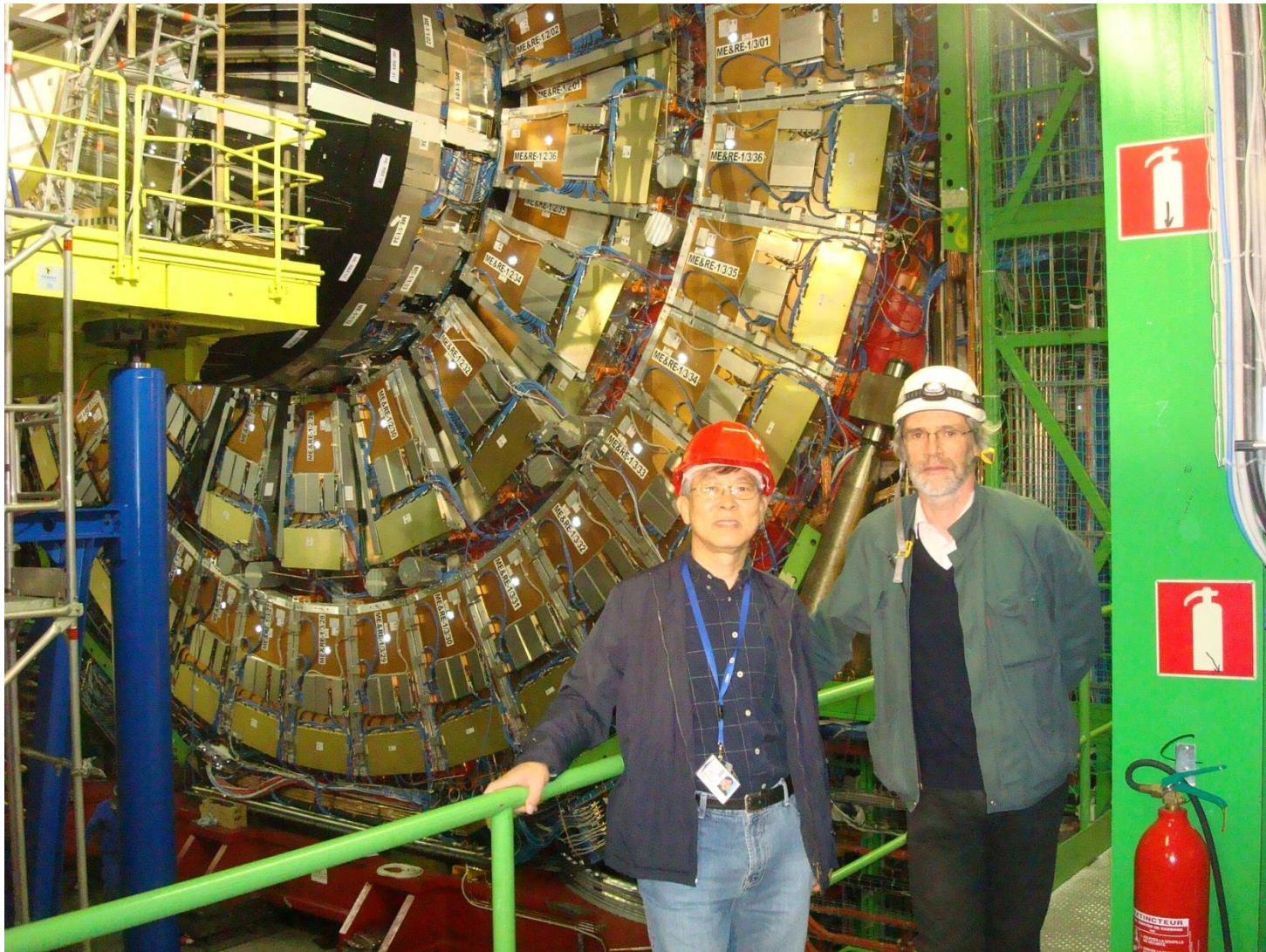
$$\oint \mathbf{E} \cdot d\mathbf{A} = \frac{q_{enc}}{\epsilon_0}$$

$$\oint \mathbf{B} \cdot d\mathbf{A} = 0$$

$$\oint \mathbf{E} \cdot d\mathbf{s} = -\frac{d\Phi_B}{dt}$$

$$\oint \mathbf{B} \cdot d\mathbf{s} = \mu_0 \epsilon_0 \frac{d\Phi_E}{dt} + \mu_0 i_{enc}$$

CMS endcap RPCs



Angels & Demons



Angels & Demons

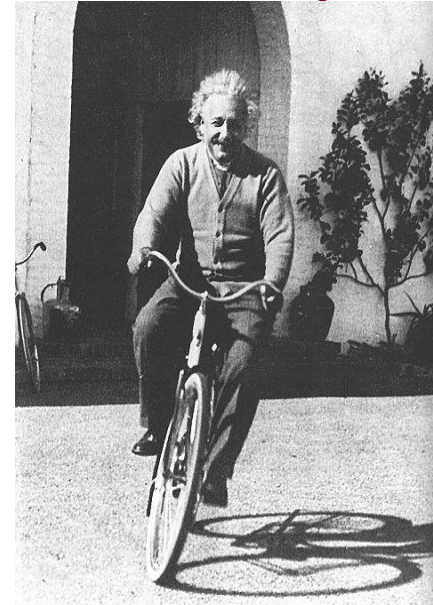




The Words of Albert Einstein



- **The most beautiful thing we can experience is mysterious. It is the source of all true art and science.**
- **The important thing is not to stop questioning. Curiosity has its own reason for existing.**
- **It is the supreme art of the teacher to awaken joy in creative expression and knowledge.**
- **I am enough of an artist to draw freely upon my imagination. Imagination is more important than knowledge.**





Who Has Seen the Wind?



**Who has seen the wind?
Neither I nor you;
But when the leaves hang trembling
The wind is passing through.**

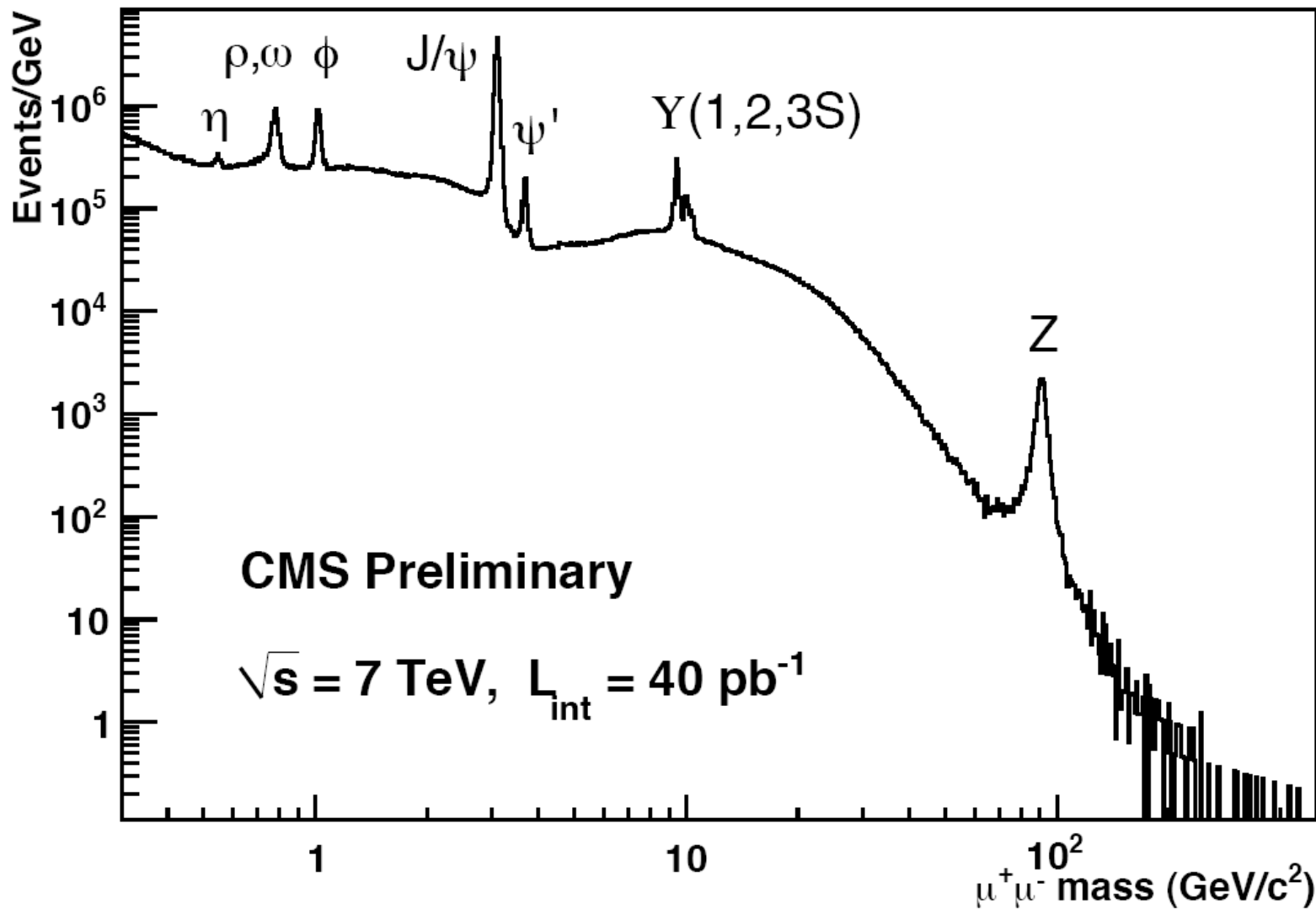


**Who has seen the wind?
Neither you nor I;
But when the trees bow down their heads
The wind is passing by.**

by Christina Rossetti

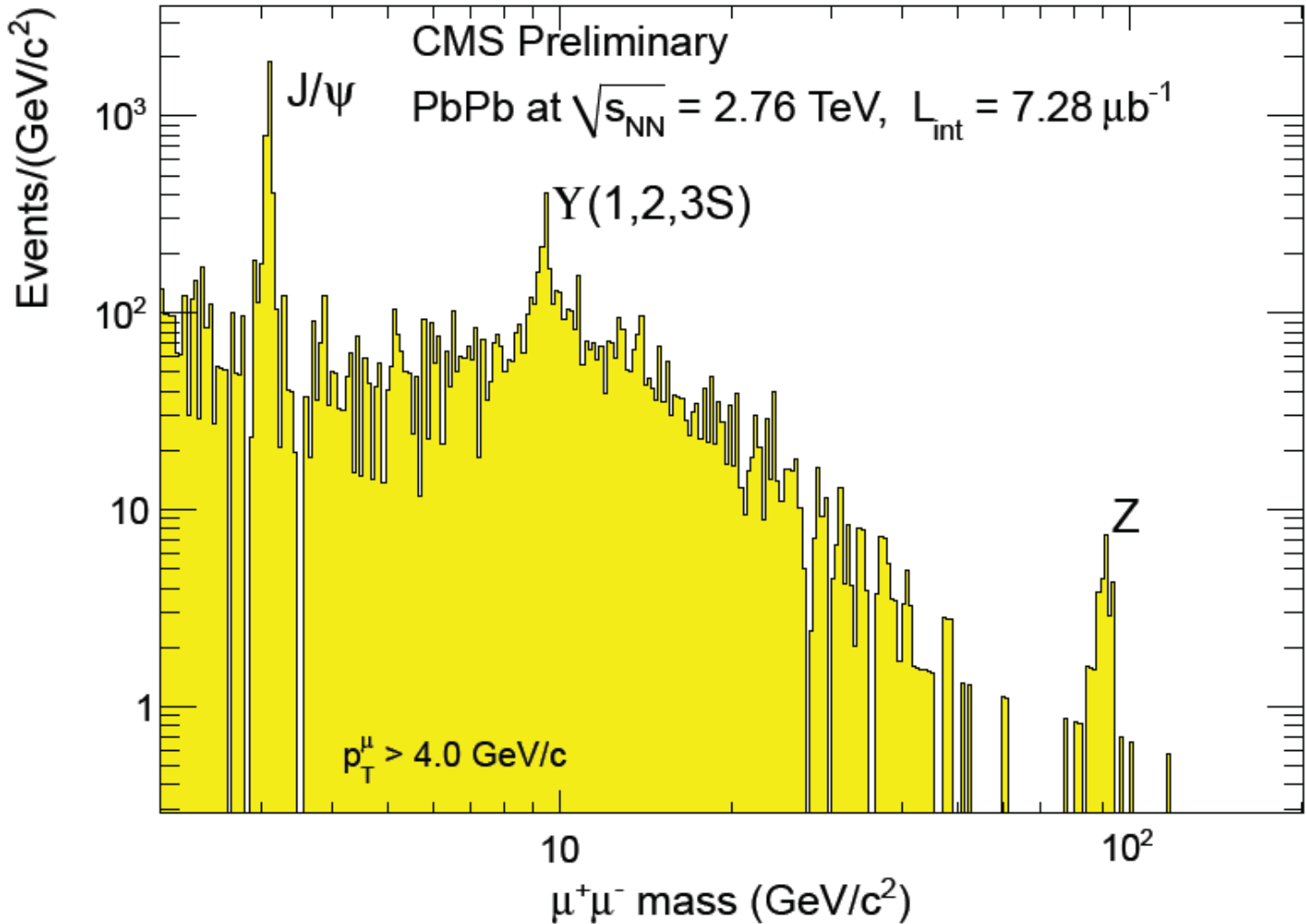


The Di-muon spectrum from CMS





Dimuon mass spectrum



Like a Boy Playing on the Seashore

**I do not know what I may appear
to the world, but to myself I seem to
have been only like a boy playing on
the seashore, and diverting myself in now
and then finding a smoother pebble or prettier shell
than ordinary, whilst the great ocean of truth lay all
undiscovered before me.**



- Sir Isaac Newton -



Global KU
Frontier Spirit



**I wish you all the best and
a bright future in your
scientific career.**



Thank you for your attention.

