

What is (the) observable ?

Atelier LARSIM-ESNT

18-22 Juin 2018

CEA/SPhN, Orme des Merisiers, build. 703, room 135, F-91191 Gif-sur-Yvette Cedex

Monday 18	Tuesday 19	Wednesday 20	Thursday 21	Friday 22
09h15 Accueil				
09h30 Bontems	09h30 Rosaler	09h30 Chambon	09h30 Balian	09h30 Abiteboul
10h30 Coffee break	10h30 Coffee break	10h30 Coffee break	10h30 Coffee break	10h30 Coffee break
11h00 Bontems	11h00 Moutarde	11h00 Bertrand	11h00 Grinbaum	11h00 Chevalier
12h00 Klein				12h00 Ermine
12h45 Lunch	12h00 Lunch	12h00 Lunch	12h00 Lunch	13h00 Lunch
14h00 Bontems	14h00 Ladyman	14h00 Nicolas	14h00 Roberts	14h00 Drissi
15h00 Coffee break	15h00 Coffee break	15h00 Coffee break	15h00 Coffee break	15h00 Coffee break
15h30 Sauvage	15h30 Lorcé	15h30 End	15h30 End	15h30 End
16h30 End	16h30 End			

I. LIST OF TALKS

• First part : The paradoxical progress of the observations

1. Observable; facts and swans [V. Bontems, philosopher]
2. The Quantum Revolution: Measurement and interaction [E. Klein, philosopher]
3. Phénoménotechnique and observable [V. Bontems, philosopher]
4. Euclid : discovering black from black [M. Sauvage, physicist]

• Second part : Quantum operators and observables

1. First part
 - Reduction and explanation in physics [J. Rosaler, philosopher]
 - From observables to generalized parton distributions in hadron physics [H. Moutarde, physicist]
 - Symetries and mathematical surplus [J. Ladyman, philosopher]
 - Observable and quasi-observable in the nucleon's spin analysis [C. Lorcé, physicist]
2. Second part
 - Theory of measurement in Quantum Mechanics [R. Balian, physicist]
 - What is a quantum observer ? [A. Grinbaum, philosopher]
 - Observables, Disassembled [B. W. Roberts, philosopher]

• Third part : What is being observed in social sciences ?

1. Traces of Babylonian accounting [G. Chambon, historian]
2. Common observables to History and material science? [L. Bertrand, physicist]

3. About the "Musical triangle": score * performance * perception [F. Nicolas, musicologist and composer]

• **Fourth part: Algorithms and diagrams**

1. Observables and big data [S. Abiteboul, mathematician]
2. The experimental detection at Cern [L. Chevalier, physicist]
3. Tacit knowledge and diagrams [J.-L. Ermine, expert in knowledge management]
4. Quantum observables from many-body diagrams [M. Drissi, physicist]