



Contribution ID: 6

Type: **not specified**

Cosmology in about 1958: The Solvay conference

Monday, 26 September 2022 10:00 (35 minutes)

During the 1950s physical cosmology was in a state of transition characterized by the rivalry between relativistic evolution theories and the new, radically different steady-state theory. Remarkably, theories of the big-bang type played almost no role at all. The Solvay physics congress in June 1958 on “The Structure and the Evolution of the Universe” was the first international conference ever devoted to cosmology, a field which was still widely considered as semi-philosophical rather than genuinely scientific. The question of whether the universe could be ascribed a definite age was typically evaded or denied scientific legitimacy. The congress in Brussels offers an interesting perspective of the state of art of cosmology at the time and how mainstream physicists looked upon the possibility of establishing a theory of the universe as a whole. The invited participants in Brussels included the leading steady-state theorists (F. Hoyle, T. Gold, H. Bondi, W. McCrea), whereas G. Gamow was not invited and his nuclear-physical explosion theory of the early universe not even mentioned. With the Solvay conference as the pivotal point, the talk will discuss how cosmology changed in the pre-big-bang era from about 1950 to the early 1960s, before the cosmic microwave background radiation entered the scene.

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Session Classification: From Herschel to Hubble: A long debate

Track Classification: sisfa 2022