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## 21cm cosmology and the BINGO radio telescope

*Friday 1 September 2023 11:20 (1 hour)*

**Abstract:** In this talk I will present the current status of 21 cm cosmology and its capabilities to be used as a probe to determine cosmological parameters. The BINGO radio telescope is an instrument built in Brazil and led by Brazilian scientists, devoted to study the 21 cm emission and to detect baryon acoustic oscillations in the radio band.

**Lecturer:** Carlos Alexandre Wuensche has a Physics degree, a M.Sc. in Astrogeophysics and a Ph.D. in Cosmology. He is a senior researcher at INPE (National Institute for Space Research in Sao Jose dos Campos, BR), working at the Astrophysics Division and has done research in Cosmology, working mainly with CMB, Galactic diffuse emission, 21 cm cosmology and Instrumentation in Radio Astronomy. He has participated in several international projects linked to CMB since 1991.

He is also interested in Astrobiology, with a focus on habitability and astrochemistry. Dr. Wuensche occupied various administrative positions at INPE, including Head of the Astrophysics Division, academic coordinator of the graduate program in astrophysics and Head of Staff of INPE. Currently he is the scientific coordinator of the BINGO project, which aims to build a radio telescope in Brazil to measure the hydrogen distribution in the Universe and detect baryon acoustic oscillations (BAO) in the radio band (text informed by the Lecturer).

**Presenter:** Dr WUENSCHÉ, Carlos Alexandre (INPE, BR)

**Session Classification:** Intelligence on Instrumentms: The Astrophysics/Astronomy Case