

LABORATORI NAZIONALI DEL GRAN SASSO

SEMINAR ANNOUNCEMENT

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**Laboratory search for a
possible time variation of
fundamental physical
constants**

Frequency is the most accurately measured quantity and precision frequency measurements offers us an opportunity to look for a possible time variation of such fundamental constants as the fine structure constant α and the electron-to-proton mass ratio. Recent progress in the area improve constraints on time variation of α to the level of 10^{-16} . I shall review situation in astrophysical observations. In my talk I will consider also recent precision frequency measurements. To set a constraint on fundamental constants one has to understand how frequencies of atomic and molecular transitions depend on α , m_e/m_p etc. This question will be also discussed in detail.

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LNGS - “B. PONTECORVO” ROOM