# Poster Session - Submission of Abstract

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Title of the Poster:
**Status on the search for neutrinoless double beta decay, circa 2015**

Abstract Text:
Following [Phys. Rev. D **90**, 033005 (2014)], we review the present status and the future perspectives on the search for neutrinoless double beta decay ($0\nu\beta\beta$) within the hypothesis that its rate is dominated by the Majorana mass of ordinary neutrinos. We show updated predictions on $0\nu\beta\beta$ coming from neutrino oscillations, we assess the sensitivity of present and future experiments and we focus on the effects of the uncertainties coming from nuclear physics. In particular, the impact of the quenching of the axial vector coupling constant in the nuclear medium is analyzed. Finally, we stress the important interplay between $0\nu\beta\beta$ and cosmology. In fact, taking into account the most recent indications on neutrino masses coming from cosmology, we discuss whether it could be possible to measure the Majorana phases and/or discriminate the two neutrino mass hierarchies.

Summary:

A short review on the current status on the search for neutrinoless double beta decay is presented. The main points discussed are:

- updated predictions from neutrino oscillations

- impact of the quenching of the axial vector coupling constant

- implications coming from cosmology data

- possibility of accessing the neutrino mass hierarchy and the Majorana phases.