ID de Contribution: **79** Type: **Non spécifié**

Studies of Neutral Bremsstrahlung emission in Xenon

We have measured, for the first time in pure xenon, non-excimer-based secondary scintillation, Neutral Bremsstrahlung (NBrS), in a dedicated setup based on a Gas Proportional Scintillation Counter.
The emission of NBrS by drifting electrons occurs even for electric field values below the gas excitation threshold. We have shown the presence of NBrS in the NEXT-White TPC, at present the largest optical HPXe-TPC in operation.
Moreover, for field values above 1 kV/cm/bar, as typically employed for electroluminescence (EL), there is consistent evidence that NBrS is present with an intensity about two orders of magnitude lower than conventional, excimer-based, EL.
Our data show excellent agreement with calculations of NBrS yield.
Despite fainter than EL, in pure xenon, this new source of emission has to be accounted for in Xe optical TPCs and may play an important role in future single-phase LXe TPCs.

Auteurs principaux: AMEDO (Univ. de Santiago de Compostela); BERNARDES MONTEIRO, Cristina M (University of Coimbra); HENRIQUES (University of Coimbra); GONZÁLEZ-DÍAZ, Diego; TEIXEIRA, J.M.R (University of Coimbra)

Orateur: BERNARDES MONTEIRO, Cristina M (University of Coimbra)

Classification de Session: Fundamental measurements session, chair Fernando Amaro