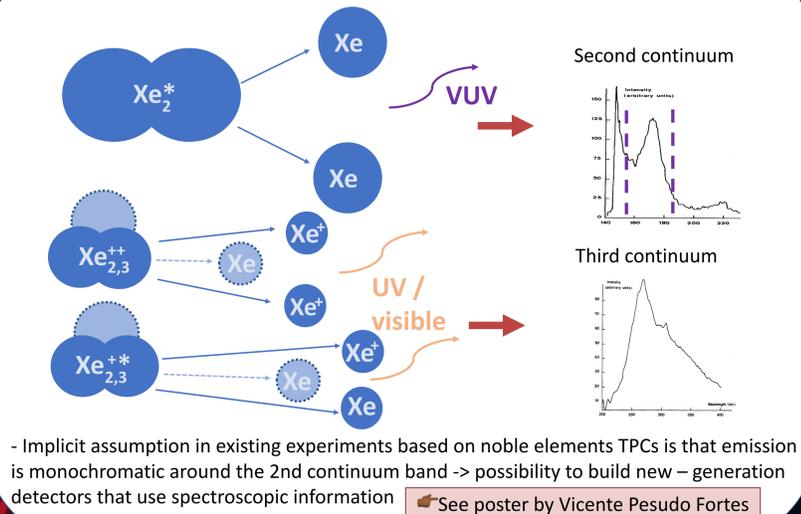


Time and band-resolved scintillation studies in high pressure xenon

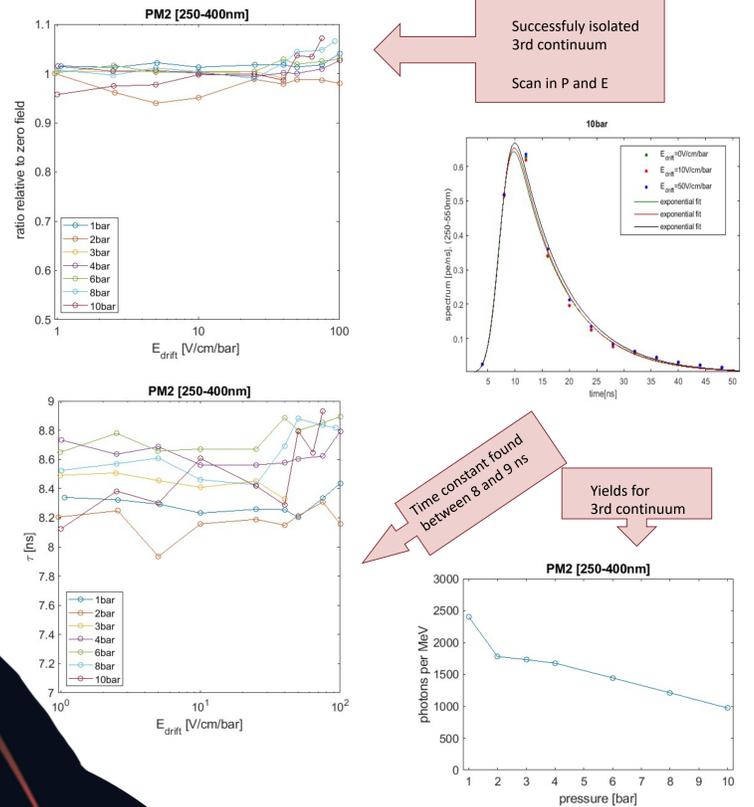
Sara Leardini^a, Pablo Amedo^a, Edgar Sánchez García^b, Diego González Díaz^a, Roberto Santorelli^b,
Angela Saa Hernandez^a, David José Fernández^a, David González^a

^a IGFAE, Campus Vida, Rúa Xosé María Suárez Núñez, s/n, Santiago de Compostela, Spain
^b CIEMAT, Div. de Física de Partículas, Avda. Complutense, 40, Madrid, Spain

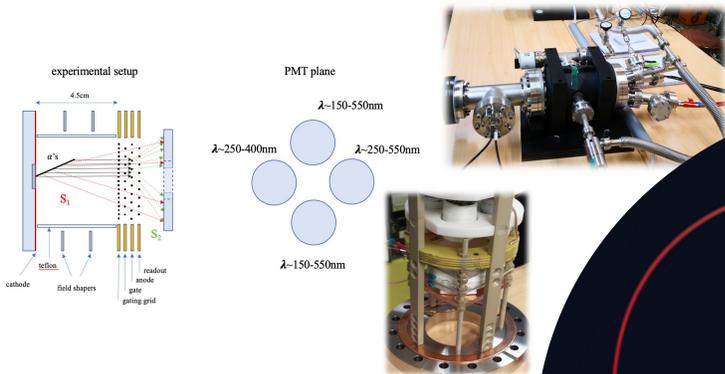
Introduction



3rd continuum with α source

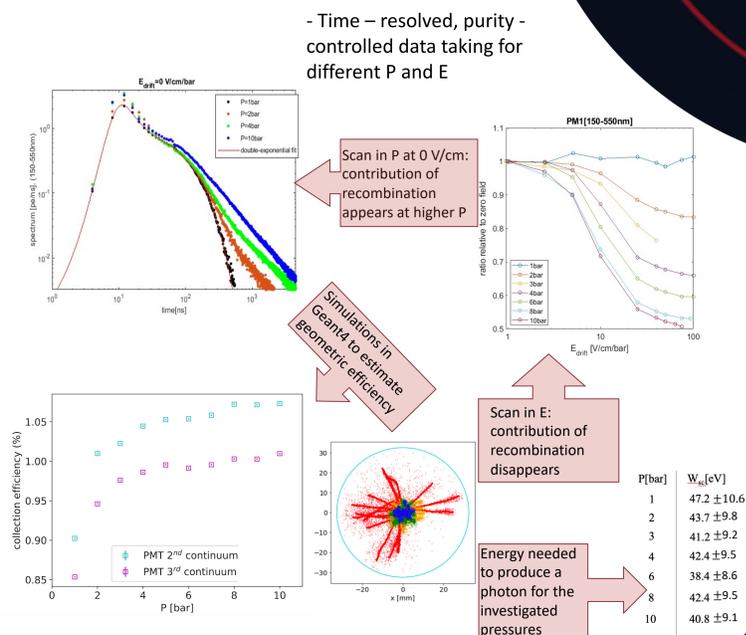


Experimental setup

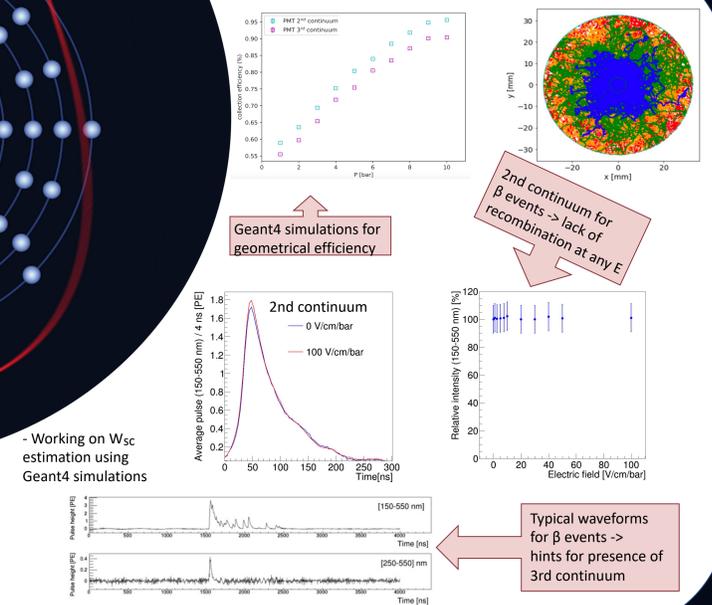


- PMTs sensitive to different wavelength ranges -> possible to isolate 3rd continuum

2nd continuum with α source



β source



Conclusions

In this work:

- We measured primary scintillation of Xe in purity controlled conditions, characterizing its time and spectral emission systematically for different particle types, vs reduced electric field (0-100V/cm/bar) and pressure (1-10bar)
- We quantified 3rd continuum yields, which are rarely reported for noble gases
- We established the lack of recombination for β s in Xe -> important e.g. for NEXT experiment
- We found hints for presence of 3rd continuum in β tracks (a detailed discussion on this will appear in a separate work)

Contacts



Sara Leardini
IGFAE
Universidade de Santiago de Compostela, Spain
sara.leardini@usc.es

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