Contribution ID: **83** Type: **not specified**

Nuclear structure studies in the vicinity of the Z = 28 neutron-rich isotopes with AGATA and PRISMA

Thursday, 6 October 2022 16:55 (25 minutes)

In this letter of intent, we propose four experiments for nuclear structure studies of neutron-rich isotopes in the vicinity of $Z = 28$ via lifetime measurements. The production of the nuclei of interest was optimized to efficiently collect data for the proposed physics cases by multi-nucleon transfer reactions of a ^{208}Pb beam impinging on an innovative ^{70}Zn(80\%)/^{64}Ni(20\%) alloy target (in-beam test of the alloy scheduled in November 2022). The target-like products will be identified in the PRISMA spectrometer in coincidence with the de-excitation gamma-rays in the AGATA array. The lifetimes of the excited states in the isotopes of interest will be measured by the so-called Recoil-Distance Doppler-Shift Method with a differential plunger. The total amount of beam time requested with PIAVE+ALPI is 20 days (16 for lifetime measurements and 4 for gamma spectroscopy studies).

Primary authors: PEREZ VIDAL, Rosa Maria (Istituto Nazionale di Fisica Nucleare); BOTTONI, Simone (Università degli Studi di Milano and INFN); GADEA RAGA, Andres F. (IFIC CSIC-University of Valencia); ILLANA SISON, Andres (University of Jyväskylä); SAHIN, Eda (University of Oslo, Oslo, Norway); BENITO GARCIA, Jaime (Istituto Nazionale di Fisica Nucleare); DONCEL, Maria (University of Salamanca); FRAILE, Luis Mario (Universidad Complutense de Madrid); LJUNGVALL, Joa (CSNSM)

Presenter: PEREZ VIDAL, Rosa Maria (Istituto Nazionale di Fisica Nucleare)

Session Classification: Session: LoI 5