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”Recent results from experiments at and beyond the dripline”

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Modern high-intensity accelerators provide access to new regions of the nuclear chart. This allows one to study the properties of extremely weakly bound or even unbound nuclei which spontaneously emit protons or neutrons. These nuclei have a huge imbalance in the proton/neutron ratio, adding a new degree of freedom - the isospin - and opening a large field of new experimental possibilities.

It has been observed that, in these systems, nuclear forces manifest themselves in different ways. This is interpreted presently as an isospin dependence, and is questioning our understanding of the behaviour of nuclear matter going from proton- rich to neutron-rich matter.

The light part of the nuclide chart offers a unique scenario where particle-bound and unbound nuclei mixed in the same isotopic chain, offering the possibility to follow how the structure develops as a function of increasing neutron number. In general, the isospin variations present in exotic nuclei are predicted to modify the nuclear mean-field picture together with the long and short-range correlation and are thus a key issue for the understanding of the evolution of the shell structure with isospin.

We will review in this talk a personal selection of recent experimental results obtained in different laboratories during the last years. The enormous quality and amount of data, are a clear sign of the dynamism and interest awoken by the investigation of nuclear species close to the dripline.

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