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Challenges and new opportunities in the study of neutron-rich isotopes¹

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Neutron-rich isotopes are the new frontier for RIB studies. The large neutron excess and reduced importance of the Coulomb barrier allow for exotic phenomena such as halos and skins and an expected modification of the effective interaction and shell-structure far from stability. Important features of these isotopes that can now be studied with existing RIB facilities will be presented. Remaining challenges will be highlighted and future prospects introduced, with a special emphasis on the CARIBU upgrade that will soon make available neutron-rich isotopes from ^{252}Cf fission reaccelerated at energies above the Coulomb barrier.

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