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Clusters in heavy ion collisions and the symmetry energy

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Clusters of different sizes are copious in the final state of low and intermediate energy heavy ion collisions. The N/Z ratio of clusters and the ratio of isotopic pairs of clusters are a sensitive probe of the nuclear symmetry energy. In this contribution we will review from a theoretical point of view the sensitivity of different observables and the conclusions that have been drawn from this in the work of our group. In particular, we will discuss the information gained from light cluster emission, driven by few-body correlations, and from intermediate mass fragments, subject to isospin transport. From light cluster emission one may learn not only about the density dependence of the symmetry energy but also about the proton/neutron effective mass splitting.

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