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## Structure and dynamics from the time-dependent Hartree-Fock model

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Within the framework of self-consistent mean-field models employing effective interactions a wide range of structure phenomena can be described, encompassing bulk properties such as masses and radii as well spectroscopy. In the absence of restrictions, such as spherical symmetry or time-reversal invariance within these models, there are additional contributions to the spin-current tensor and time-odd densities and in the mean-field that have a direct impact on deformation properties in nuclei as well as collisions between them.

Recent results from Skyrme Hartree-Fock and time-dependent Hartree-Fock calculations will be discussed, including the effects from the time-odd terms in the mean-field and the role of tensor forces in the reproduction of structure data and collisions between nuclei. These terms are shown to have non-negligible effects for describing collisions, in particular fusion.

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