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# Neutron emission anisotropy in fission

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Neutron experimental distribution is investigated in fission process.
Is well known that during fission process the bulk of prompt neutrons is evaporated from the fully accelerated rotating fragments.
Neutrons evaporation theory states that the emission is isotropic in center of mass of moving fragments (C.M.) , but if we compare the experimental angular distribution with a pure isotropic evaporation one, same discrepancies appear.
To understand the source of these deviations it was introduced a contribution to neutron angular distribution dues to neutrons ejected at an early stage of the fission process, at the scission point.
But also adding scission neutrons and taking in the account the anisotropy effect dues to the kinematical focussing, the excess of neutrons observed at small angle around heavy and light fragment remains.
So it was assumed that the anisotropy appears also in the system C.M. and this effect reinforces the kinematical anisotropy in the laboratory system.
There are theoretical arguments and calculation that claims that this anisotropy exist , but there isn't any direct observation, because the contribution to the kinematical focusing due to the C.M . anisotropy is very weak .
To show this feature of neutron evaporation in C.M. a new method was developed by the collaboration. In fact Cora experiment consist in the measure of the triple coincidences between any fission fragment and two ejected neutrons . With this trick we can disentangle in the laboratory system the contribution to the anisotropy dues to the kinematical focusing to the effect of the predicted C.M. anisotropy.

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