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Why do the fission fragments spin?

Recently, new measurements of the fission fragments spin showed no correlations between the fragments spin. These results have stimulated extensive theoretical discussion about the generation, orientation, and correlation of the fission fragments spin. In this contribution, I will discuss several approaches microscopical and collective to describe the mechanisms responsible for the angular momentum at scission.

Although we currently have experimental data about the correlation between the magnitude of the angular momenta of the fragments, the presence of correlation between their direction described by the opening angle distribution is subject to different predictions from various theories. I will show how quantal effects and geometry of the scission configuration can change the opening angle distribution.

Tuesday 5th March 2024, 14h00
IJCLab, Build. 100, Room A018