1. C.B.Collins et al. Phys. Rev. **C42** (1990) R1813.
2. J.Besserer at al. to be published.
3. C.Schlegel et al. Phys. Rev. **C50** (1994) 2198.
4. M.Loewe et al. Z. Phys. **A356** (1996) 9.
5. P.Von Neumann-Cosel et al. Nucl. Phys. **A621** (1997) 278c.
6. M.Schumann et al. Nucl. Phys. **A621** (1997) 274c.

SPIN GENERATION IN FRAGMENTATION PUMPING MECHANISM

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A new mechanism able to explain the data on low energy fission fragment spins is proposed. It is based on the well known quantum mechanical result that whereas the angular orientation of a quantal object is rather well fixed its canonically conjugated quantity is distributed. The average of this distribution is shown to correspond to observed average spins and more generally our explanation is consistent with most of the relevant experimental knowledge (like angular distribution of emitted gammas). In particular such quantal fluctuations does not need to resort to unlikely high temperature excitation mechanisms of spin carrying modes as in other currently advocated models like the so-called bending modes.

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NUCLEAR STRUCTURE PHYSICS AT GSI-CHALLENGES AND PERSPECTIVES

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The availability of exotic nuclei far from stability, in some regions of the nuclear chart even close to the driplines, over large energy ranges as well as developments of new efficient detector systems gave new impacts on nuclear structure research. The studies of halo nuclei, the mapping of extended areas of the nuclear mass surface, systematic studies of fission fragment distributions, and the creation of new elements beyond the limit of macroscopic stability provided new insights into nuclear matter at the limits of stability, nuclear shells, and structure effects in low-energy reaction dynamics.