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Lifetime measurements and shape coexistence in 97Sr

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Delayed rays from neutron rich A=97 fission fragments were measured using the Lohengrin spectrometer at the reactor of the Institut Laue-Langevin in Grenoble [1]. Several lifetimes of excited states in 97 Sr were measured using the fast-timing technique [2]. The rapid change in ground-state deformation between the spherical 96 Sr (N=58) and the deformed 98 Sr (N=60) is well known [3, 4]. Therefore, it is of particular interest to study the shape-coexisting structures at the spherical-deformed border (N=59). With the extracted transition probabilities, the type of excitation of some states could be studied and assigned [5].

[1] P. Armbruster et al. NIM 139, 213 (1976)
[2] J.-M. Régis et al. NIMA 726, 191 (2013)
[3] J.-M. Régis et al. PRC 95, 054319 (2017)
[4] E. Clément et al. PRL 116, 022701 (2016)
[5] A. Esmaylzadeh et al. PRC 100, 064309 (2019)

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