

# Imaging of few-body nuclear systems in nuclear track emulsion

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**Abstract.** In spite of the fact that nuclear track emulsion (NTE) was developed more half a century ago, it remains a universal and cost-efficient detector. The application of NTE is especially well grounded where tracks of nuclear particles cannot be reconstructed using electronic detectors. At the JINR Nuclotron the BECQUEREL experiment [1] is performed a program of irradiation of NTE stacks in the beams of relativistic isotopes of beryllium, boron, carbon and nitrogen, including radioactive ones to study their cluster structure. The NTE technique allows one to observe the 3D images of few-body ensembles originated in peripheral collisions and explore the fragmentation of the relativistic nuclei down to the most peripheral interactions. Classic observations of fundamental importance presented in “The Study of Elementary Particles by the Photographic Method” by C. H. Powell, P. H. Fowler and D. H. Perkins can serve as a model of clarity in our time. Our research is implemented in keeping with this tradition by state-of-art means. The rich collection of videos and images gathered at the Web site on dissociation of relativistic dissociation is presented [2]. They are relevant for the development of advanced systems of automatic search for nuclear interactions, as well as for university education.

- [1] The BECQUEREL Project WEB site <http://becquerel.jinr.ru/> .
- [2] <http://becquerel.jinr.ru/movies/movies.html>