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EFFECTS OF HIGH PRESSURE ON THE RADIOACTIVE DECAY

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It is well known that the radioctive decay can be influenced from external environment [1][2]. However we still don39;t have a univocal picture that describes these effects. Understanding how the radioctive decay is influenced in high density environments is useful for different fields like, for example, the relevant fusion processes in stellar environment [3] or for isotope-cycling and fractionation on Earth [4]. Therefore we prepare a test at the Nuclear Physics Institute of the Czech Academy of Science. We will use three large HPGe detectors to measure gamma-rates from a solid target of 22 Na under high pressure. The source of 22 Na decays by β + that presents a strong gamma line, it has reasonably long half-life (T 1/2 = 2.6 yr) and it is commercially avaible. This simple system may provide an optimal test-bench. Hereby we will present and discuss our preparations for the test.
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