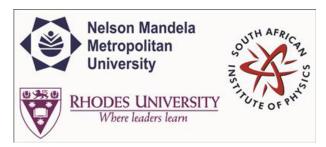Contribution ID: **140** Type: **Oral Presentation**

Statistical properties of Zirconium-91

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Abstract content
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The gamma-ray strength function is defined as a measure of the average reduced gamma decay probability of a nucleus. This concept is useful at high excitation energies where the spacing between the levels is small and gives information on degrees of freedom and underlying nuclear dynamics [1]. The evidence of an enhancement in the gamma-ray strength function for energies less than 4 MeV has been discovered in several fp-shell nuclei over the years e.g ref [2]. Recently, a strong enhancement of M1 transitions in ^{90}Zr has been predicted for gamma-ray energies below 2 MeV in shell model calculations [3]. In this work we explore the existence of the low-energy enhancement in ^{91}Zr. The experiment ^{90}Zr(d,p)^{91}Zr was conducted at the Oslo Cyclotron Laboratory (OCL). The SiRi (silicon ring) array was used to detect charged ejectiles from the reaction. The CACTUS NaI(Tl) array was utilized to detect gamma rays in coincidence with charged particles. The nuclear level density and gamma-ray strength function were extracted with the Oslo method. In this presentation the preliminary results of the statistical properties of ^{91}Zr will discussed.

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