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Lifetimes and transition probabilities in the positive parity states band in ¹⁹⁴Tl

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Abstract content
   (Max 300 words)
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The excited states in ¹⁹⁴Tl were populated in the ¹⁸¹Ta (¹⁸O,5n) reaction at the beam energies of 91 and 100 MeV delivered by the SSC at iThemba LABS. The emitted γ-rays were detected using the AFRODITE γ-ray array, which comprised 9 clovers and 6 LEPS. Lifetimes in the positive parity band near and above backbending region of ¹⁹⁴Tl were studied by DSAM and a total of five lifetimes were extracted. The reduced transition probabilities of magnetic dipole B(M1) and electric quadrupole B(E2) have been obtained from evaluated lifetimes. In this contribution the experimental details of the Doppler shift attenuation method, results of the lifetimes and the extracted transition probabilities will be presented.

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