

Age-Momentum Correlation (AMOC) Measurements by Means of a Relativistic Positron Beam and the Positron Clock Principle.

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Two novel techniques have been employed at the Stuttgart MeV positron where a start signal with unity detection efficiency is derived by passing the e^+ through a β^+ detector. i) $\beta^+ \gamma \Delta E$ AMOC measurements allow us to follow kinetic processes (*e.g.*, positron trapping or chemical reactions of positronium) directly by time domain observations of the populations of different positron states. ii) Further improvement of the time resolution of the e^- lifetime measurements can be achieved by circular deflection of the beam over a position-sensitive ring detector («positron-clock principle») in order to get a continuous time-tagged positron beam.

- [1] H. STOLL *et al.*: in *Proceedings of the 5th International Workshop on Slow-Positron Beam Techniques* (SLOPOS 5), Jackson, Wyoming, USA, 1992, to be published in the *AIP Proc. Series*.