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(54) **Title:** A METHOD FOR CALIBRATION OF TOF-PET DETECTORS USING COSMIC RADIATION

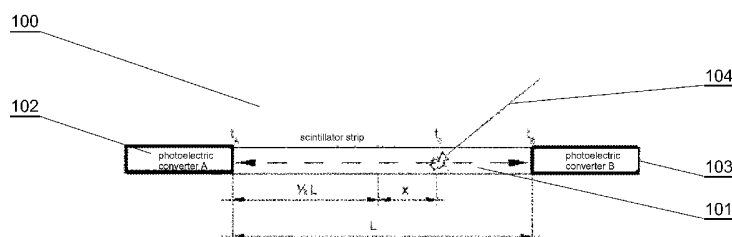


Fig. 1

(57) **Abstract:** A method for calibration of TOF-PET detectors comprising polymeric scintillator strips and photoelectric converters, wherein cosmic radiation is used as a source of radiation, the method comprising the steps of: recording times of reactions of particles of cosmic radiation with the scintillator strips (101, 411, 421, 511, 521); determining spectra (301) of distribution of differences in the times at which pulses are recorded at ends of the scintillator strips (101, 411, 421, 511, 521) connected to photoelectric converters (102, 103, 412, 413, 422, 423, 512, 513, 522, 523); using the determined spectra (301) to determine timing synchronization constants of the photoelectric converters (102, 103, 412, 413, 422, 423, 512, 513, 522, 523), the constants being related to: delays within the electronics; speed of light propagation within the scintillator strip of the detection module; and resolution of the difference in times of the signals recorded at the ends of the module.

