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Effects of long-term annealing in p-type strip detectors irradiated with neutrons to 1x10e16 investigated by Edge-TCT

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Charge collection properties of a Hamamatsu n+-p micro-strip detector, irradiated to 1x10e16 1/cm2 with reactor neutrons, were measured using Edge-TCT. After several annealing steps, up to total time of 10240min. charge multiplication can be clearly seen for voltages even as low as a few hundred volts, as well as the influence of both short and long term annealing in high and low electric field detector region. The effect of charge multiplication also shows strong correlation with the increase of the leakage current.

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