

INFLUENCE OF CELLULOSE NITRATE TRACK DETECTORS  
CHARACTERISTICS ON ALPHA PARTICLES REGISTRATION

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Influence of storage time period before irradiation and the amount of plasticizer on CN track detectors registration properties were examined. Energy resolution and registration efficiency were examined for low energy alpha particles (1-5 MeV). Laboratory prepared plastic track detectors based on 3 different kinds of cellulose nitrates: NC-135, NC-180 and NC-650 ("Milan Blagojević", Lučani) were used. Detectors were prepared with optimum concentration of plasticizer of twice less.

It was found that aging of the detector before irradiation and decreased amount of plasticizer effect detection properties in opposite manners. Aging time of 10 months before irradiation significantly enhances resolving power of the detector while at the same time it decreases detector's registration efficiency. Concentration of plasticizer twice less than the optimum one terribly decreases resolving power but it increases registration efficiency of the detector.