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STEP  
AUTHORS: Somoló, Á., Tarján, I., and Voszka, R.

TITLE: On the influence of impurities upon the photoconductivity of NaCl crystals coloured by X-rays

PERIODICAL: Physica status solidi, V.2, no.7, 1962, 829-840

TEXT: The paper evaluates the measured dependence of photoconductivity upon thermal and optical bleaching in radiative coloured NaCl crystals grown in either porcelain (Pc-crystals) or platinum (Pt-crystals) crucibles. Results are plotted as  $\eta$  versus  $E_p$ . ( $\eta$  is the quantum yield,  $w$  the free electron path in unit field,  $N_p$  is the concentration of P-centers). The curves obtained characterise the way the crystal was grown and bleached. Differences are due to the relative high  $OH^-$  ion concentration in the Pt-crystals. Thermal

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On the influence of impurities....

bleaching curves lie entirely below the colouring curve for Pc-crystals, and partly above partly below for the Pt crystals. Optical bleaching curves for both crystals have a negative slope. Significant differences between Pc crystals and Pt crystals are obtained after resting the samples subsequent to their partial optical bleaching. Absorption spectra of the samples were also measured. The results can be explained qualitatively by assuming a light  $OH^-$  concentration in Pt-crystals, and postulating a new colouring process for such crystals, involving the dissociation of  $OH^-$  ions under irradiation. There are 15 figures.

ASSOCIATION: Medizinisch-Physikalisches Institut, Budapest  
(Medical-Physics Institute, Budapest)

SUBMITTED: April 19, 1962

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