

A B S T R A C T"Characterization of Carbons and Graphites by X-Ray  
examination"

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As reported earlier we study the WARREN-AVERBACH-analysis of X-ray line profiles (00. ) for characterization and better understanding of the structural states of graphite and the processes during graphitization.

In this paper the influence of the preparation of the specimens and of the standard on the results are discussed.

The graphit types used were based on coke from acenaphtylene and decacyclene, on petrol cokes as well as pyrolytic graphite. It is shown, that the mean square fractional displacements in some cases will give additional possibilities for characterizing the crystalline order. Above all spirally grown pyrolytic graphites reveal almost only a decrease of displacements, their crystallite size remaining nearly constant. Also an addition of small portions (1% per weight) of boron nitride in acenaphtylene coke causes an essential diminution of displacements, whereas an addition of natural graphite has no similar effect.

In comparison to the results based on the WARREN-AVERBACH analysis it will be pointed out that the interlayer distance shows no differences at the acenaphtylene cokes mentioned above. The differences at the pyrolytic graphites are only small and do not give a reference to the special graphitizing behaviour.