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IV-6 Mr. R. D. KETTNER

Mr. Chairman, Ladies and Gentlemen, I shall be very brief in giving just a few additional comments to my paper on the use of Lagrangian polynomials in the analysis of arch dams by the load distribution method.

In those grid lines having no node points at the end, that is at the boundary or the abutment respectively, the adjustment loads have to be extrapolated in some way.

The most critical grid line in this sense is for the most part the crest arch: since it is the longest grid line it generally contains the highest number of nodes and thus the polynomials have the highest degree compared with other (shorter) grid lines.

So the polynomial functions may become, at the ends near to the abutments, wavy or fluttering when the polynomial is of high degree. In order to overcome this obstacle and to avoid misleading loading distributions in these areas (i. e. in the abutment zone at the crest) it was found best to equal the function value in the abutment point with the value in the nearest node point.

In the concluding remarks in my paper I therefore mentioned the possibility of using Spline functions instead of Lagrangian polynomials, which may be an easier tool with respect to the necessary extrapolation at abutments of the crest arch. But this still has to be studied.

So much for my contribution - and now, referring to the paper of Dr. Widmann, who unfortunately could not participate in this Seminar, I can say that he told me he had no additional comments to his paper.