

**Calculation of Instrumental Functions As a
Method for Analyzing the Alignment of the IR
Channel
of a Scanning Fourier-Transform IR Spectroradiometer**

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Abstract—A specific feature of scanning Fourier-transform IR spectroradiometers (FTIR SRs) is the use of a multiarea photodetector. The optical scheme of these SRs is calculated so as to provide the most efficient transfer of the IR radiation from each sector of the IR channel to the corresponding element of the multiarea photodetector. An indirect method is proposed, which makes it possible to estimate the alignment quality of the IR channel of a scanning FTIR SR based on the calculation of its characteristic instrumental functions, which should eventually provide the best sensitivity for the entire multiarea photodetector of scanning FTIR SR.

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