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In general, as expected the repeatability strongly depends on acquisition time, which was tested with this prototype in the range 0.03–20 ms. Even shorter acquisition times are possible. A further development is planned to increase the working frequency by using higher harmonics of the SCPEM or by using a different crystal with a higher fundamental frequency. The proposed measurement device is ideally suited for monitoring applications, quality control for large volume production (for example thin film control in photovoltaic panel production), and tracking of fast physical and chemical reactions.