

### **Method for characterization of laser pulses using pulse quality factor**

There is described a method of characterizing a short laser pulse, the method comprising the steps of obtaining root-mean-square widths of the pulse through second order moments of the pulse; obtaining a spectral width of the pulse using the root-mean-square widths; obtaining a root-mean square temporal width of the pulse; and defining a Pulse Quality Factor proportional to a product of the spectral width and the temporal width. This approach does not require complete characterization of laser pulses and eliminates the need of any assumption to interpret autocorrelation traces. The method can be applied to pulses of arbitrary shape.

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