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# **CORRIGENDUM:** Parametric spectro-temporal analyzer (PASTA) for real-time optical spectrum observation

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The authors neglected to cite some of the previous studies related to Fourier Transformation in the Introduction section of this Article[1–4]. These additional references are listed below as references 1–4, and should appear in the text as below.

"This concept was first introduced by Azana et al. for real-time Fourier transformation[9], where group-velocity dispersion (GVD) directly stretched spectra in the time domain. After wavelength-to-time mapping, the spectrum can be captured by a single-pixel detector and a real-time oscilloscope."

should read

"Earlier work on real-time Fourier transformation has been demonstrated by Tong[1], Bhushan[2] and Azana[9] where group-velocity dispersion (GVD) directly stretched spectra in the time domain. After wavelength-to-time mapping, the spectrum can be captured by a single-pixel detector and a real-time oscilloscope. Its first demonstration in applying DFT spectroscopy[3] was not as practical until the introduction of optical amplification as in ADFT[4]."

In addition Table 1 is incomplete and should also include an additional reference[5] listed as reference 5 below. Table 1 should read:

Table 1 | Performance of PASTA versus different technologies

| Specifications | OSA[24] AQ6370C (Yokogawa) | FROG[25] FROG Scan (MesaPhotonics) | BOSA[26] (Aragon Photonics) | ADFT[7] | PASTA |
|---|---|---|---|---|---|
| **Resolution** | 0.02 nm | 0.2 nm | 80 fm | ~0.04 nm | 0.03 nm |
| **Wavelength range** | 100 nm | 100–600 nm | 37 nm | 10 nm[(5)] | 5 nm |
| **Sensitivity** | −60 dBm[(1)] | >30 dBm[(3)] | −70 dBm | >30 dBm [(3)] | −30 dBm[(4)] |
| **Frame rate** | 5 Hz [(1)] | 2 Hz | 1 Hz | 25 MHz | 100 MHz |
| **Input condition** | Any | Short pulse (fs~ps) | Any | Short pulse (fs~ps) | Any |
| **Observation time span** | Any | 30 ps | Any | ~20 ms | ~20 ms |
| **Polarization** | Any | Sensitive | Sensitive | Any | Sensitive[(2)] |

[(1)] There is a trade-off between sensitivity and frame rate of the OSA, e. g. when sensitivity = –90 dBm, frame rate = 1/(75 sec) = 13.33 mHz. [(2)] It can be solved by polarization-diversity technique[23]. [(3)] Since the FROG and the ADFT systems primarily measure the short pulse, here the sensitivity refers to the peak power of the pulse. [(4)] PASTA sensitivity is characterized with the CW source, and there is no sensitivity improvement for the pulse source measurement, when comparing with the ADFT. [(5)] Here the wavelength range is only for this specified application, the DFT process can be operated over much wider wavelength range, e.g. over 100 nm[5].

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