Current coupler parameters: 6A\*us or 6mA\*ms



|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Wavelength | 3 | 4 | 5 | 6 | 7 | 8 | lambda>8 |
| Wavenumber | 3333.333 | 2500 | 2000 | 1666.667 | 1428.571 | 1250 | wn<1250 |
| Mirror velocity | **0.6329** | **0.9494** | **0.9494** | **0.9494** | **0.9494** | 1.8988 | 1.8988 |
| Fourier frequency | 4219.333 | 4747 | 3797.6 | 3164.667 | 2712.571 | 4747 |  |

LIA: Sampling frequency=256 kHz, sampling period= 4 us, so signal frequency should be lower than 100 kHz.

Could you check and let me know the highest modulation frequency that we used or needed in FTIR double-modulation measurement?

In a double modulation measurement, we usually use a pulsed current source with a driving frequency of **5 kHz**. For the FTIR setup, a reduced mirror velocity of 0.9494 cm/s (1.8988 in CW mode) is used. The typical spectral range is 2500~1000 /cm, so the Fourier transform frequency is 2\*0.9494\*(2500~1000)= **4750~1900**. This value is below modulation frequency of 5 kHz.