























Fig. 7. Measurements of (a) group delay (b) dispersion parameter via direct measurement on dispersion shifted fiber using DVRI ( $K = -8e + 3$ ).

#### 4. Conclusion

This manuscript developed the theory of Dispersive Virtual Reference Interferometry and demonstrated its usefulness for eliminating the  $DL$  measurement limit for short-length ( $<1$  m) low-dispersion fibers by compressing the interference pattern. It is an important capability when the bandwidth of available sources is limited. Compression of the interferogram has the additional benefit of enabling the generation of dispersion plots over a wider spectral range. The use of a dispersive virtual reference extends the flexibility, versatility and practical utility of the virtual reference technique.

#### Acknowledgments

This project is funded by NSERC Discovery, CFI, and ORF Grants. Michael Galle would like to thank the Vanier Canada Graduate Scholarship program for supporting this research.