



Fig. 8. System mode dependent loss (MDL) evaluated from the estimated impulse responses for 32 wavelength channels.

5. Conclusions

In this work, we proposed the all-fiber mode multiplexer that combines LP_{01} and two-fold degenerate LP_{11} modes. We have successfully demonstrated MDM-WDM transmission over 560 km of FMF with 3 modes and 32 wavelength channels by using the all-fiber mode multiplexers. It was shown that the all-fiber mode multiplexers could be a crucial building block for long distance MDM-WDM optical transmission.

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